
# Guarding the Frontier

## Ottoman Border Forts and Garrisons in Europe

Mark L. Stein

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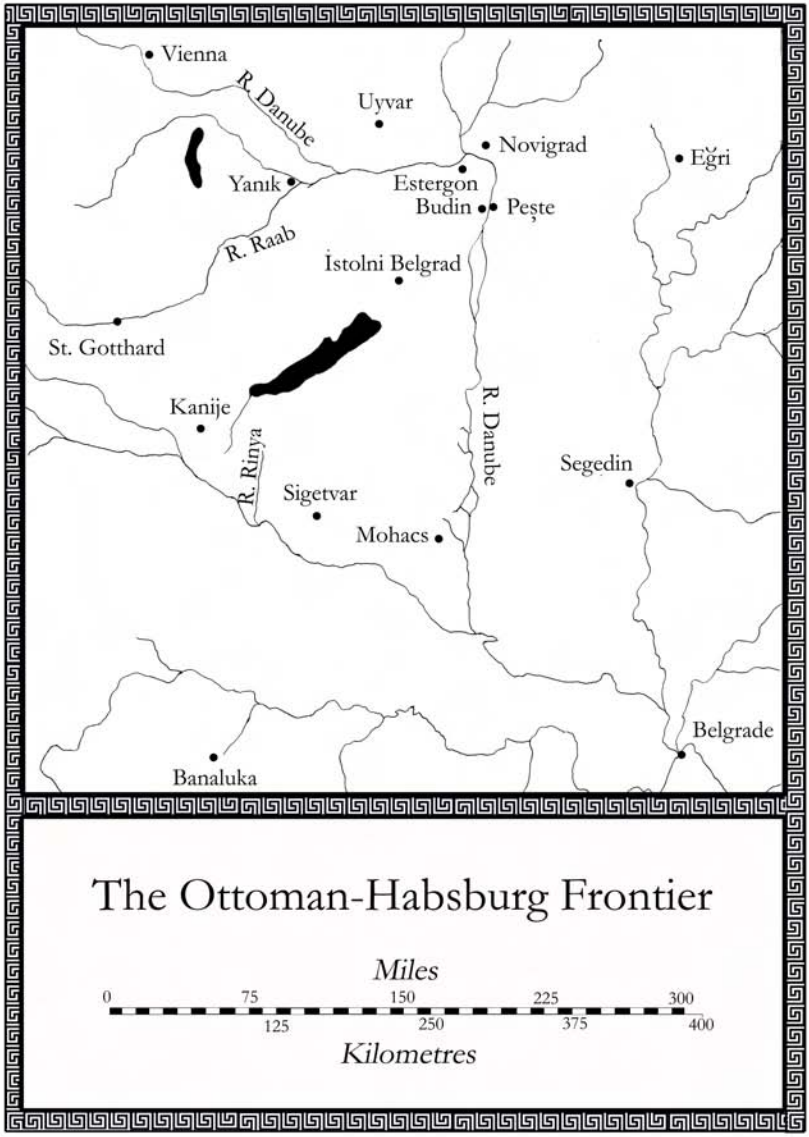
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# Introduction

The Ottoman-Habsburg frontier in Hungary was the scene of chronic conflict during the early-modern period. These two empires had faced each other in the Balkans since Sultan Süleyman I's destruction of the Hungarian kingdom in 1526. Hungary was just one theater in the larger Habsburg-Ottoman struggle between Süleyman and his rival Charles V, the Holy Roman Emperor. Although the animosity between these rulers was great, at times political factors led both states to reorient their foreign policy to other arenas. Charles became more concerned with supporting the papacy against the growing Protestant Reformation, as well as competing with Francis I of France for supremacy in western Europe. Süleyman too was drawn away by the threat to his eastern frontiers presented by the Safavids in Iran.

Ottoman-Habsburg peace in Hungary was short-lived, however. After a series of campaigns to determine Hungarian sovereignty in the 1530s Süleyman ended hostilities in exchange for annual tribute payments from the Austrian Habsburgs. A dispute over late payments brought the aging Sultan back into the field for his last campaign in 1566. He died one day before his forces captured the Hungarian city of Szigetvar. With the death of the Sultan a new peace was arranged in 1568, with the

Habsburgs again agreeing to pay tribute to Istanbul. This treaty was renewed in 1574 and again in 1583.

During this period of official peace, the soldiers of the two empires conducted raids into enemy territory. The Ottomans and Habsburgs both continued to claim parts of Hungary no longer under their active control as well as the tax revenues generated by those regions. This situation meant that service on the frontier could be dangerous, but could also financially rewarding. Troops often crossed the border not only to collect taxes, but also to seek booty for themselves. Raids by garrison troops of both empires were endemic and a certain level of raiding was acceptable under the terms of the peace treaties. Sometimes, though, the raids were so large the imperial centers had to take notice and act.

Such was the case with the Ottoman-Habsburg war of 1593-1606, usually called the Long War. Raids led by the Ottoman governor of Bosnia were of a scale that Vienna could neither ignore nor tolerate. The Habsburg retaliation gave the aggressive Ottoman grand vezir Koca Sinan Pasha the pretext he needed to launch a campaign in the West. Neither side, however, had the resources to bring the war to a decisive, victorious end. The conflict dragged on for thirteen years, with forts won and lost by both empires. The negotiated settlement that ended the war in 1606 ultimately brought little change to the frontier. The Ottomans now held the forts at Kanije and Eğri. The Habsburgs no longer paid annual tribute, but they did agree to pay the Sultan a substantial "gift."

For most of the seventeenth century the location of the Ottoman-Habsburg border was relatively stable. It ran through western Hungary and along a line similar to that of present-day Austria's borders with the former Yugoslavia. Both empires had established a line of fortresses to defend their territory, and to act as bases for raids against the other. These fortresses ranged in size from timber and dirt-walled palisades to enormous bastioned structures built according to the then state-of-the-art *trace italienne* system.

Advances in military architecture, driven in large part by the advent of effective gunpowder weapons, reoriented early-modern

warfare to focus on sieges of fortresses and fortified cities. To defend against the new guns, fortifications became lower—with deep ditches and walls backed by tons of earth—and more spread out. Advanced artillery aided the defense as well, with guns that shot farther and straighter. Capturing forts became much more time- and labor-intensive, and operationally more important than ever. Bypassing even a small fort on the way to a more important target left the advancing army open to attacks on its rear by the fortress garrison. Thus, border forts and their garrisons became vitally important to the defense of both empires.

This book is an attempt to examine the nature of the Ottoman forts and garrisons on the Ottoman-Habsburg frontier by investigating the military, social, and economic aspects of their administration. The temporal focus of the book is the period between the Long War and the campaigns engendered by the second siege of Vienna in 1683. With the exception of the war of 1663-64, this was a period of official peace between the Habsburgs and Ottomans. My goal is to see how the Ottoman-Habsburg frontier operated between major campaigns—when it was not under the scrutiny of the imperial centers.

The early modern frontier between the Ottomans and their adversaries to the west has been the subject of a number of studies. Renowned historian William McNeill produced an important overview in *Europe's Steppe Frontier*, his study of the influence on western Europe of the conflict with enemies coming from the steppes to the east.[1] Relations in the Mediterranean have been discussed in John Guilmartin's influential book on the technology of naval warfare and the advent of gunpowder weapons, *Gunpowder and Galleys*.[2] Other important studies of the Mediterranean frontier are Andrew Hess's foundational work on Spain and Ottoman North Africa, Palmira Brummett's monograph on trade, war, and diplomacy between the Ottomans, Mamluks, and Italian city-states, and Molly Greene's study of Crete under Ottoman rule.[3] Hess's work has been particularly influential in the development of the current study. The confrontation he describes between the Habsburgs and Ottomans in the Western Mediterranean has many parallels to

their encounter in the Balkans. A comparison helps place both regions in the larger context of early-modern imperial conflict.

More directly about the Ottoman-Habsburg land frontier is a book by Jean Nouzille titled *Histoire de Frontières l'Autriche et l'Empire Ottoman.*[4] While Nouzille does present some useful descriptive material, he never develops a theoretical definition of frontiers. His description of frontiers is based on ideas about the Roman *limes* derived without reference to any recent scholarship in English about the borders of Rome.[5] He then views the Habsburg-Ottoman frontier as nothing but an extension of the Danubian *limes* of Rome. In any case, the majority of the book concerns developments after 1700.

Early work approaching the Ottoman-Habsburg military frontier from the Habsburg side includes Gunther Rothenburg's excellent studies of the organization and administration of the Habsburg "Grenzer" frontier guards in Croatia.[6] More recent studies of the Habsburg defenses against the Ottomans make up the first half of a volume published by a group of Hungarian scholars, *Ottomans, Hungarians, and Habsburgs in Central Europe.*[7] Taken together these works provide an understanding of the nature of Habsburg defenses against the Ottomans, at least for specific regions such as Croatia or periods such as the sixteenth century.

Others have approached the question using Ottoman sources. For the regions of the former Czechoslovakia and Yugoslavia respectively, Vojtech Kopčan and Olga Zirojevič have studied the Ottoman military establishment and administration.[8] These works provide good material for comparison to the situation in Ottoman Hungary. Also important is Caroline Finkel's study of the logistics of the Ottoman-Habsburg Long War for its insight into Ottoman military planning, spending, and manpower in Hungary in the early seventeenth century.[9]

When one narrows the focus just to the Ottoman-Habsburg frontier in Hungary, one must of course rely heavily upon the work of Hungarian scholars. Led by Géza Dávid and Pál Fodor, a number of Hungarian Ottomanists have begun publishing their work in English to gain a wider scholarly audience.[10] The second

half of *Ottomans, Hungarians, and Habsburgs in Central Europe* contains studies of the Ottoman side of the frontier.[11] Both Fodor and Dávid have articles about the Ottoman military in the sixteenth century.[12] Much of what they describe was still the case in the seventeenth century.

Klára Hegyi and Gábor Ágoston, also contributors to the volume, have written specifically about Ottoman forts in Hungary. Hegyi has produced several articles on garrisons in the sixteenth century, the period immediately prior to the focus of the present study.[13] Ágoston has done important work on Ottoman gunpowder production, as well as on the costs of Ottoman frontier defense in the West..[14] Although his work too concentrates on the sixteenth century, it adds a valuable perspective to developments in the seventeenth century.

Two other scholars who have worked on Ottoman forts on the Habsburg frontier are Claudia Römer and A. Z. Hertz. Römer's book is a study of Ottoman forts in Hungary in the sixteenth century.[15] Hertz's work focuses on border forts during the eighteenth century.[16] Both these authors explore issues of garrison composition and fortress supply, and their work thus acts as a sort of "bookends" for my investigations in the seventeenth century.

In this volume I try to present a picture of Ottoman fortress life, organization, and administration in a systematic way. In the first chapter I discuss both the idea of frontiers and their importance to Ottoman history and historiography. I view frontiers as transitional zones between two or more states or peoples. As such, the frontier is less a dividing line and more a zone of interaction between and among those peoples, states, and cultures. Using this definition of a frontier, and applying it to the Ottoman-Habsburg case, I employ comparative examples whenever applicable to show how this frontier fits larger frontier paradigms. Taking a comparative approach to frontier history both helps to clarify what is specific to one state's experience and shows what aspects of frontier interactions affect all states. The nature of these interactions makes the frontier population

transitional and presents that population with certain economic opportunities.

The Ottoman-Habsburg frontier in Hungary has often been portrayed as a clear division between two competing states and civilizations. On one side, the Habsburgs have been depicted as the defenders of Christendom, protecting Europe from the onslaught of the Turks. On the other, the Ottomans have been viewed as the last of the *gazi* warriors, conducting raids against the infidels and expanding the *Dar al-Islam*. Such a stark bifurcation was far from the case. The frontier zone in Hungary was less a locus of separation than a transitional zone of interaction. The population at the frontier, although separated by political boundaries, was connected through trade, taxation, and raiding. Trade continued across the frontier despite the division of Hungary between the Ottomans and Habsburgs. Cattle raised on the Hungarian plains and wine from local vineyards were still brought to market for consumption in the West. The proceeds from agricultural production, in the form of taxes, also crossed the frontier, as both empires claimed rights of ownership over villages that were sometimes controlled by one state, sometimes the other.

The issue of double taxation and competing claims to territory led to trans-frontier connections as well. The correspondence between the pashas of Budin and their Habsburg counterparts requesting assistance collecting taxes demonstrates a commonality of interests that superseded the divisions between the two sides. Double taxation also linked the peasants on both sides of the border, as they were targeted by collection agents of both states.

The frontier was a zone of economic opportunity as well—especially for the troops manning the fortresses. Garrison service presented a number of avenues for economic advancement. Volunteer troops served on the frontier hoping to be rewarded with *timar*s, Ottoman grants of usufruct of land, or by enrollment in regular army units. All frontier troops participated in raids across the border. The booty collected on even a short raid could be worth many times a soldier's annual salary. Finally, garrison

troops often had access to capital with which to invest in local trade.

The second chapter investigates the Ottomans' ability to besiege, defend, build, and repair fortifications in the seventeenth century. Technological developments in gunpowder weapons and fortifications made siegecraft a highly specialized aspect of the military arts in the early modern period. In this chapter I discuss the tactical advances in siegecraft, and assess how well the Ottomans adapted to the new technology and methods. This discussion includes Ottoman techniques in digging and advancing trenches and placing mines, as well as the manpower and supply requirements for a lengthy siege. I also survey the types of artillery available to an Ottoman army conducting these operations. I use a wide variety of sources in these investigations. In addition to Ottoman archival material, narrative sources—both Habsburg and Ottoman—prove particularly enlightening, especially the military manuals written by Habsburg officers such as Raimondo Montecuccoli and Luigi Marsigli. These men reveal the strengths and weaknesses of Ottoman frontier operations in the proposals they put forward.

Chapter Two continues with an investigation into the defensive aspects of Ottoman siege warfare: building, maintaining, and supplying fortresses. Using Ottoman narrative histories and archival records I discuss Ottoman military architecture and the procedures involved in building and maintaining frontier forts. Data from financial records not only presents an estimate of the costs of maintaining the fortifications, but also provides information on the recruitment of craftsmen used in the construction projects. Fortress inventories present data on the equipment and supplies found in Ottoman forts. Inventories of the armaments and munitions of a fort shed light on the military aspects of garrison life, but knowing what other supplies were stocked leads us to a better understanding of the non-military activities of the garrisons. These latter materials reveal aspects of the everyday life of garrison troops. The variety of tools and equipment suggests how a fort was maintained. Listings of foodstuffs, cookware, and other household goods provide

information on how the troops lived while defending the border. These supply records allow us to consider the wide variety of activities of the garrison troops and humanize the men, making them more than just numbers in a payroll record.

Chapter Three deals specifically with the garrison troops. Drawing on an extensive database compiled from seventeenth-century garrison payroll records, I describe the various types of troops who served on the Ottoman-Habsburg frontier. This analysis is the first comprehensive examination of garrison staffing that synthesizes data from the entire century. The garrisons contained troops of different backgrounds who served different purposes: the *kapıkulu*, imperial "slaves of the Sultan," and levied soldiers, cavalry and infantry, Muslims and Christians. I consider the size and command structure of the different kinds of units, as well as their pay. The sometimes-confusing variety of troop types in a garrison reflected not only imperial strategic decisions about the military needs along the frontier, but also the workings of competing interest groups within the Ottoman army. An analysis of the payroll records clearly shows that certain units were maintained even if understaffed to preserve the pay and benefits of the unit commanders. Similar reasons go far in explaining the presence of different categories of troops that effectively served the same purpose. Finally, a thorough understanding of the costs of frontier defense adds to our knowledge of the financial health of the Ottoman state in the seventeenth century.

Chapter Four discusses the size of Ottoman frontier garrisons in Hungary, using the forts at Kanije and Uyvar as samples. I track the changes in the composition of the garrisons, as well as their overall size through the seventeenth century, again using the information from the garrison payroll records. Garrison size varied widely over time, and those variations can be related to the overall military needs of the empire. When this frontier was quiet, garrisons could be reduced. When military action against the Habsburgs heated up, more men were assigned to the frontier. One can also see how the Ottomans worked to ensure peace on

their Hungarian frontier when they were prosecuting campaigns against the Safavids or in Poland.

The final chapter deals with the Ottoman administration of the frontier. I approach the issue of frontier administration from two directions. Using documents produced by the central administration, such as financial records, *kanunname* law codes, and the *mühimme* copies of imperial orders, I first assess what the interests of the Sublime Porte were, and the actions it took to ensure its authority along the border. The central administration had to balance the need for a strong and effective defense of the frontier with the necessity of husbanding the limited financial resources of the state. The payroll costs of the Hungarian frontier were substantial, and the financial bureaucrats developed several methods to provide for the troops with as little strain on the treasury as possible. These methods ranged from simply not paying the troops when the frontier was quiet, to a variety of bookkeeping techniques that either lowered the payments or shifted the financial burden off the central treasury and drew on other income sources.

Receiving no or lower pay led the garrison soldiers to seek alternative means of recompense. In addition to the raiding and looting that was a normal part of frontier military service, many troops became involved in merchant activity in the local markets. The central administration took a dim view of this illegal activity, and much of the *kanunname* law codes established for the Hungarian provinces deal with regulating trade at forts. There are frequent prohibitions against the garrison soldiers becoming involved in merchant activity. Fiscal records show that despite these laws fortress troops were investing in basic commodities, like salt, and trading them. If soldiers became too involved in the market, they would neglect their primary military duties, and the security of the frontier would be imperiled. The Ottoman central government was well aware of this problem, and worked to prevent it.

Coming from the other direction, I investigate what aspects of administration were handled by provincial officials through an analysis of a unique report from a frontier bureaucrat to his

superiors in the central financial ministry. This is the report of a frontier bureaucrat describing local conditions and his own activities. The document shows us that provincial administrators were also concerned with cutting costs and saving the treasury money. The report lists a number of cases where money was being wasted, and indicates attempts to control spending. It also demonstrates the sometimes strained relationships between the financial authorities and the military commanders on the frontier as the local treasury clerk struggled to keep the soldiers from overspending state funds or keeping tax revenues for themselves.

Although this study concerns the entire Ottoman-Habsburg frontier in Hungary, in my discussion of the garrisons and administration I focus on two specific fortresses as case studies. These are Kanije and Uyvar. These two forts were important parts of the Ottoman defensive network in Hungary during the seventeenth century. The differences between them make them useful for broader comparative purposes, especially with regard to garrison composition and size.

Kanije (modern Nagykanisza) is located in western Hungary between Lake Balaton and the River Mur, near what was the former Yugoslav-Hungarian border. It is approximately 120 miles southwest of Budapest and 70 miles northeast of Zagreb. Kanije was taken by the Ottomans in 1600 C.E. and held until the Holy League conquered it in 1690 C.E. The famous defense of the fort by Tiryaki Hasan Pasha in the autumn of 1601 C.E. is the subject of several *gazavatname*s, prose works commemorating a specific battle or campaign, as well as a famous work by the nineteenth-century Turkish nationalist writer Namık Kemal.[17] Kanije was a large fort, and the city was the center of an Ottoman *vilayet*, or province, for most of the seventeenth century.

Uyvar (called Neühausel in contemporary German sources; modern Nové Zámky in Slovakia) was, by comparison, a much smaller fortress, and was held by the Ottomans for only 22 years. The fort was one of those captured by Fazıl Ahmed Köprülü in 1663 and was lost to the Habsburgs and their allies in 1685.[18] Uyvar was also the center of a *vilayet*, and was much closer to disputed territory while in Ottoman hands, lying less than 100

miles from Vienna itself.[19] Taken together, Kanije and Uyvar are good examples of Ottoman frontier garrisons. Information on Kanije shows what happened in a large fortress that was a center of Ottoman frontier defense for almost a century. Uyvar, though smaller and held for a much shorter time, was equally vital to the defense of the Empire, due to its location at the farthest extent of Ottoman western expansion. It is clear from the data that conclusions about the garrisons and administration of these forts holds equally true for other Ottoman-Habsburg frontier fortresses, such as Estergon, İstolni Belgrad, and even Budin.

In closing, some technical notes on language, names, and dates: For transliteration of the Ottoman language I have followed the United States Library of Congress system. Briefly, this system mandates the use of the modern Turkish spelling of Ottoman terms, with adaptation to show the Persian possessive. For most places and cities under Ottoman control I use the Ottoman name. Thus, Uyvar not Nové Zámky, Kanije not Nagykanisza, and Budin not Buda. For non-Ottoman places with well-know English names, however, I use those names. Examples are Vienna and the Danube River. While I have used only Common Era dates in the framing historical narrative, in the body of the text, where I rely primarily on Ottoman sources, I maintain the Hijri dating with corresponding Common Era dates.

# 1

# Frontiers and Ottoman Frontiers

**Frontiers**

The word "frontier" brings to mind some very specific ideas and images. For Americans, or those influenced by American popular culture, these images are of the Old West. Boom towns, the brave sheriff bringing justice to a lawless land, the savage Indian—all these romantic images are linked to the word "frontier" because of the way expansion across the continent has been portrayed in both American popular culture and, for a time, in American histories. While these are the clichés of the American West, there are some ideas implicit in them that apply to other frontiers. The boom town can be seen as representative of the economic opportunities in a frontier region. The symbol of the sheriff bringing justice shows not only that a frontier exists at the farthest extent of a state's coercive power but also the efforts of a state to extend its control. Finally, the threat of the Indians suggests that frontiers are potentially dangerous places; often the site of enemies and military action.

The most precise definitions for terms like "border," "frontier," or "boundary" come from political geography.[1] Using this terminology, the "boundary" is the actual line of demarcation

between two states. Boundary lines, of course, only exist on maps. They are conceptual markers, determined through negotiation and defined by treaties between the adjoining states. Precise demarcation of boundaries is a relatively recent phenomenon, only appearing after the development of precision surveying and measuring tools. The first such survey and demarcation of an Ottoman border occurred late in the seventeenth century, after the Holy League took territory from the Ottomans in the Danube region.

The "frontier" is the transitional zone within which the boundary lies. This region is by nature difficult to determine. There are no clear rules for where the frontier zone begins or ends. On a militarized frontier—like that of the Ottomans and Habsburgs in Hungary—the limits of the frontier were marked by the presence of fortifications manned by the troops of the adjoining states. Each side's territory was open to raids by the frontier garrisons, and the fortifications themselves could be captured, thus relocating the limits of the frontier zone.

Although in some literature the region between states is called the "borderland," that term has become associated specifically with the American Southwest, and so here the term "frontier" will be used. The term "march" is also relevant here. A march is a type of militarized political entity within the frontier zone led by a semi-autonomous marcher lord.[2]

How have historians used the term "frontier?" For most of the twentieth century any discussion of frontiers was dominated by the "Frontier Thesis" of Frederick Jackson Turner.[3] Turner wrote that the development of American democracy grew from the experience of expansion into the "empty land" of North America. Despite the presence of the technologically less-advanced indigenous population and their influence on the lifestyle of the frontiersman, North America was seen as land open for settlement. Turner himself acknowledges that this emphasis on settling land is a new way of looking at frontiers. He writes, "The American frontier is sharply distinguished from the European frontier—a fortified boundary line running through dense populations. The most significant thing about the

American frontier is that it lies at the hither edge of free land."[4] For Turner this new type of frontier is exemplified by the expansion of colonists from large organized states into areas occupied by the less organized, often nomadic Native Americans. The frontier is no longer a boundary between states; rather, it is both a process of expansion and social transformation, and the place where that process occurs.

Despite Turner's differentiation between the American frontier and European frontiers, this basic scheme of organized states interacting with less-organized indigenous peoples is one of the most lasting legacies of the Frontier Thesis. Almost all subsequent discussions of frontiers accept this interaction as part of what defines a frontier.[5] Indeed, Turner's ideas about the frontier, which he himself saw as only applying to America, grew to dominate discussions of all frontiers worldwide.[6]

Historically, though, most frontiers did not fit this description. By far the majority of frontiers in history—and certainly the Ottoman-Habsburg frontier of the seventeenth century—were frontiers between two or more states. In recent years a number of diverse studies have added to our understanding of Eurasian frontiers.[7] It becomes clear that the more information we have about frontiers throughout history, the more difficult it becomes to develop a clear and unitary definition of the concept. Rather than propose yet another doomed overarching model, let me suggest several elements that should inform all attempts to study frontiers.

Our understanding of frontiers must incorporate both the physical and social aspects of a frontier. First, we should view the frontier as a zone, an area that surrounds the boundary line and encompasses land on each side of that line. The size and shape of that zone can change, but the frontier can be measured by the structures—forts, toll gates, border crossings—that mark the limits of territory held by the adjacent states.

The frontier zone must be considered as a whole, despite the differences of the states on either side of the boundary. Not only is there is some sort of commonality between the areas across the boundary from each other, but there is also a difference between

the area near the border and the interior of each state. As one author has put it, "It is through the frontiers of a state that it has relations with other states; and its frontier areas are thereby differentiated from the interior parts of its territory."[8]

The frontier is indeed the place where two or more states meet and interact, and this interaction makes the frontier a transitional zone. It is an area where societies come together and mingle and where travelers and goods can pass from one to the other. All regions, however, can be seen as transitional in some way. What distinguishes the "true frontier" is that it is a region where "the transitional character is a dominant fact of life."[9] It is where local social and economic conditions are governed by the interaction across the boundary.

This definition of frontier for the most part applies to geographic territory but it also speaks to the nature of the people living in the frontier zone. It is they who are most influenced by the transitional nature of the frontier. How does it affect them? The answer reflects the idea that the frontier is a transitional zone.[10] The population within that zone is marginal. People who choose to live at the frontier of their state are different from those who live in the interior. They may not, however, be all that different from their counterparts across the boundary. As Owen Lattimore, in his famous essay "The Frontier in History,"[11] has described it, "It is often possible to describe the border populations on both sides of a frontier, taken together, as a joint community that is functionally recognizable though not institutionally defined." [12] Lattimore gives the example of smuggling as a case where individuals on both sides of the frontier may join together to circumvent the laws of their respective states. On militarized frontiers garrison troops on each side lived similar lives guarding and raiding—lives that differed from those of their fellow soldiers serving in the imperial field armies.

Other factors also contribute to connections between people on each side of a frontier. Boundaries, especially those advanced by war, often divide populations that share a religion, language, or ethnicity. Such was the case with the Ottoman-Habsburg frontier

in Hungary. Although this region was a militarized frontier separating two often antagonistic empires, the local populations on each side of the frontier spoke Hungarian, and lived similar agrarian lives. Thus, despite the formal separation into two different polities, informal ties were maintained across the boundary.

Lattimore's example of smuggling also underscores another aspect of the frontier population's experience. The frontier was often a place to begin a new life with new opportunities—particularly the opportunity for economic advancement. Turner put it quite eloquently when he writes "each frontier did indeed furnish a new field of opportunity, a gate of escape from the bondage of the past."[13] Moving to the frontier offered economic opportunities not found in the interior. In North America a large part of the opportunity was the potential to acquire land. Homesteading was promoted, and land ownership was open to new migrants.[14] It is possible that in some cases there was similar opportunity along the Ottoman-Habsburg frontier.

Military life on the frontier often presented the chance to get ahead economically. A soldier's life always had some basic economic appeal, primarily from the promise—often unfulfilled—of a regular income from the state treasury. Peacetime service in frontier garrisons also offered the opportunity to acquire wealth through raiding for booty. Garrison troops had the skill with arms, proximity to enemy territory, comrades, and time to cross over the border and loot towns and villages. States usually turned a blind eye to such raids by their forces unless their depredations were serious enough to provoke a major response from the other side of the frontier. Border troops had carefully to balance their own desire for gain against the risk of attracting the attention of the authorities of both states. Full-scale warfare on the frontier brought new risks to the garrison troops, increasing the likelihood of military action and decreasing the opportunities for raiding and the resultant economic benefit.

## Ottoman Frontiers

The Ottoman state first emerged as a raiding principality on the Seljuk-Byzantine frontier, and frontier issues remained central to its development as the empire expanded through the Balkans and Middle East. When looking at the specific dynamics of Ottoman frontiers the transitional nature of the frontier population and the economic opportunities offered on the frontier emerge as recurring themes.

### *Frontiers and the Rise of the Ottomans*

The Ottoman dynasty emerged as leaders of one of the Turkmen warrior bands operating in the frontier region between the Byzantines and Seljuks in thirteenth-century Anatolia. These Turkmen had come to Anatolia under the pressure of the expanding Mongol power in Central Asia seeking new grazing lands and other economic opportunities. The Seljuks, like their predecessors, the Umayyads and Abbasids, [15] had established military districts, or marches, along the frontier facing the Byzantines. It was here that the Turkmen settled, organizing under warrior leaders to raid Byzantine territory for booty and slaves, as well as to capture more territory to advance the border.[16]

These raids were not only lucrative, but also had a religious aspect that added to their appeal. The battle against non-Muslims was described as *gaza*, a war for the Faith, and the fighters became *gazi*s.[17] The more successful *gazi* leaders attracted many followers and acquired the title *uc beyi*, or march bey.[18] As their war bands grew, they established their own principalities, or *beylik*s, in the conquered regions. The Ottoman Empire began as one of these *beylik*s.[19]

It is remarkable how similar historians' descriptions of the social situation along this frontier are to Lattimore's ideas. Both M. Fuad Köprülü and Paul Wittek described the specifics of the mixed, transitional frontier community that made up the population of each side of the border decades before Lattimore presented his more theoretical work.[20] Both authors emphasize that the Muslim *gazi*s had their counterparts in the Byzantine

border guards, the *akritai*, who also lived by raiding and had a similar religious basis for their service.

The population along the Anatolian frontier was a mixed one. As Köprülü writes, describing the captured cities that became the capitals of the *uc beyi*s, "[J]ust as there were both Christian villages and Muslim villages in the Turkish area, the population of the cities was also a mixture of Christians and Muslims. Conversely, one could also find Muslim Turks settled in Byzantine territory." [21] Wittek points out that this frontier population differed from that of the hinterland. He writes:

> Between the military borderlands and the peaceful and industrious hinterland there exists the greatest cultural contrast . . . . The increase of the warlike elements, brought together from the most distant parts of the world, gives rise on both sides of the frontier to a curious mixture of nationalities and languages, to a population quite distinct from that of the hinterland. Moreover, there are strong political and religious tensions between the marches and the hinterland.[22]

Wittek continues his discussion by pointing out the social similarities and linkages between the frontier raiders of each side. He writes:

> For in the same degree that they differ from their own hinterland, they resemble the march warriors of the foe. Deeply rooted in one and the same eastern Anatolia, mingling with the same native population and deriving their cultural features from the same conditions of life, they are in daily contact with each other, and, moreover, this contact is not always belligerent. Prisoners, deserters and women taken from the other side facilitate the cultural exchange and assimilation.[23]

Köprülü underscores these ties by observing that the literary epics concerning the region show friendly contact between Christians and Muslims. [24] This is seen in the Greek epic of

Digenis Akritas, Turkish works about Seyyid Battal, and the *Book of Dede Korkut*.[25] All these epics concern warriors for the Faith fighting against infidels, but in each case there are adherents of the opposing religion portrayed in a positive light, often as a companion to the hero.

*The Ottoman-Habsburg Frontier in Hungary: Economic Opportunity*

By the seventeenth century, the social links across the border had changed but they were still important aspects of the frontier. The open frontier of the *gazi bey*s and Byzantine *akritai* was gone. In its place there was a new diplomatically-determined frontier separating two large bureaucratic empires and their garrison troops. Despite the more formal relationship between imperial center and frontier periphery, informal ties across the border remained.

The frontier was still a locus of economic opportunity as well. The need permanently to man lines of border fortresses led both empires to recruit new troops. Those willing to go to the frontier were also attracted by economic opportunities. In some cases men were drawn to the frontier by the possibility of acquiring farmland in much the same way as immigrants were attracted to the New World. A 1083-84 A.H./1673 C.E. report from the *defterdar*, or financial scribe, at Uyvar, an important fortress on the Habsburg frontier, discusses the difficulties encountered in trying to carry out a proper land survey.[26] He finds that local *timar*-holders tried to keep farmers living in the area unregistered to prevent the farmers from being assigned to the imperial *hass* lands. These unregistered peasants were probably young, unmarried men who had left their home villages and come to the frontier region in search of land to farm. The *defterdar* reports that there were many living in villages and *mezraa*,[27] abandoned arable land. Because they were new arrivals, they were not listed in the land registers. Thus, the lure of "open land" had an effect on the Ottoman-Habsburg frontier.

There were, however, other more important economic opportunities available at the frontier, particularly involving the military. As seen above, the allure of booty raids was one of the

factors that united the *gazi* warriors in the Anatolian *beylik*s, among them the nascent Ottoman state. By the seventeenth century the Ottoman administration and military were bureaucratized to the extent that raiding bands of *gazi*s no longer had a place on the frontier. That is not to say that raiding had ceased or that groups similar to the *gazi*s did not exist. Border incursions by both Ottoman and Habsburg garrison troops to rustle livestock and take captives were common. It should be noted that a certain low level of raiding was acceptable under the provisions of the treaties between the two empires. This followed the precedent of Ottoman agreements in the region. The 1483 treaty with King Matthias of Hungary stated that raids involving less than 400 men would not be considered a cause for war.[28] Opportunity, however, came with risk. Booty raids not only made life along the frontier dangerous but, if large and disruptive enough, also violated the Ottoman-Habsburg peace treaties.[29]

Still, there was opportunity along the frontier for a motivated young man. Volunteers, called *gönüllü*s, moved to the frontier to try to make a living as military men, much as the *gazi*s had during the early years of Ottoman expansion. Initially these troops served as part of the retinue of the fortress commander and did not receive a salary from the central government.[30] They hoped through valorous service to be granted a *timar* or a regular salary like those of the Janissary corps. As early as the sixteenth century, however, *gönüllü*s became a regular feature of garrisons, receiving salaries and being organized into units similar to the *kapıkulu* troops.[31]

*Gönüllü* troops were a significant part of frontier garrisons. Records from Uyvar show that *gönüllü* units were often the largest in the garrison.[32] In peacetime almost twenty percent of the troops assigned to Uyvar were *gönüllü*s.[33] During wartime the proportion of *gönüllü* troops in fortresses could rise even higher as other troops were transferred from garrison duty to the field army, as records from the last months of the 1663-64 Ottoman-Habsburg war demonstrate. With the main army marching to meet the Habsburgs, the number of *gönüllü* troops at Uyvar rose,

making up one quarter of the garrison. After their defeat at St. Gotthard in August 1664, the Ottomans increased the size of garrisons in forts all along the frontier. Uyvar's non-Janissary garrison troops increased from 634 to 850 men, with *gönüllü*s comprising the largest single contingent, making up one third of the troops.[34]

The raids the garrison troops made into enemy territory could be very lucrative. All kinds of booty were taken, including horses, other livestock, grain, male and female captives, and, when the raid was against a military target, weapons. In his *Seyahatname*, Evliya Çelebi describes the raids he took part in while at Kanije in 1664.[35] The booty and captives taken in the raid were sold in the market place after the raiders returned. These sales could last several days. Evliya relates that it took five days to sell the booty from one raid and eight days for another.

The proceeds from one of these sales totaled 86,000 *guruş* (large silver coins).[36] A comparison to how much the garrison normally was paid shows the significance of this income and how important booty was as a supplement to regular salaries. *Mevacib defterleri* (payroll records) for the garrison provide this information. A particularly detailed *defter* from 1687-88 gives the total daily payroll for Kanije as 18,654 *akçe*.[37] When this amount is computed for the entire year and converted to *guruş*, the total comes to just over 55,000 *guruş*.[38] Clearly raiding was a major supplement to a soldier's normal pay. It was especially welcome when pay from the central administration was late, a common problem for the Ottomans in the seventeenth century.

Captives were an important and valuable commodity along the frontier. Evliya recounts that after one of the raids forty captives were sold for a variety of prices. Five leaders among the captives, whom Evliya calls *reis kâfirleri*, possibly officers, were sold for 1,000 gold coins each. Five others were sold for 500 gold coins each, and the remainder were sold for between 200 and 300 each. Thus the money raised by selling captives—at least 13,500 gold coins and perhaps as much as 16,500—was a major portion of the total of 18,160 gold coins that Evliya reports the sale of booty had generated.[39]

Some captives were taken for resale to urban slave markets; others were put to work locally. During campaigns many captives were used to dig trenches in Ottoman siege works. Such was the fate of Count Luigi Fernando Marsigli, a Habsburg officer captured during the 1683 siege of Vienna, who later wrote a book describing the Ottoman state and military.[40] Marsigli ultimately arranged his ransom and was released.

Ransom of captives, primarily captured officers and soldiers, became a lucrative aspect of frontier raids in the seventeenth century and was a feature of raids by both Ottoman and Habsburg troops.[41] The ransoms paid for captives could amount to much more than the value of the booty a soldier could carry away in the initial raid. Peter Sugar, in his discussion of the institution of "professional prisoners" along the Ottoman-Habsburg frontier, gives information on the amounts of ransoms.[42] Citing documents from the Hungarian National Archives, Sugar reports that the Hungarian commander of Körmend, the fortress facing Kanije, paid the following for the release of 91 of his men between 1648 and 1650:[43]

28,220 tallers in cash
44 lengths woolen cloth
100 lengths linen cloth
17 pistols
24 large vats wine
900 "kila"[44] weight honey
29 "kila" weight pepper
3 "kila" weight saffron
100 cases butter

Individual ransoms for officers could be large. In 1588 Olay Bey paid the commander at Körmend 1,000 tallers in cash, 6,000 tallers worth of cattle, and two complete sets of horse gear, one decorated in gold and the other in silver.[45] Even ransoms for regular soldiers could be substantial.

*The Ottoman-Habsburg Frontier in Hungary: Transitional Frontier Populations*

The valuable trade in captives led to the institution of "professional prisoners" described by Sugar. He found the same names repeated in lists of captives released to raise the funds for their own and others' ransom. When a man went out to collect the ransom by selling property or seeking donations from friends and family, several of his fellows remained captive in the fort as guarantors. If he failed to return, these men would lose teeth, limbs, or possibly their lives. By tracking the recurring names, Sugar concludes that some men acted as "professional prisoners," allowing themselves to be captured and then agreeing to go and raise the ransoms for all the prisoners in a fort. They made a profit by collecting more than the required ransom from the families of the other prisoners.

The development of this institution shows not only a further opportunity for economic advancement along the frontier, but also the linkages among residents on both sides of the border. Raiding and taking captives were hostile acts carried out by the troops of two empires in opposition. Yet, the existence of an institution like the professional prisoner shows that individuals from both sides could find a commonality of interests that was contrary to the hostility of their respective governments. Certain Ottoman soldiers worked with their Habsburg captors to ensure that ransoms were collected and paid in such a way that both parties realized a profit.

Frontier troops had an interest in keeping the level of violence along the border in check. Raids that were too large or destructive could draw the attention of the central authorities on both sides of the frontier, which could lead to full-scale campaigns. In that case, the garrison troops would possibly have to join the field army, and their booty raids would be curtailed. Frontier troops would also suffer any repercussions of actions taken during a campaign. When captives taken during the siege of Uyvar were being executed by the Grand Vizier, it was the frontier soldiers who complained that "to destroy the captives in cold blood was an action against the Laws of Arms, and might be

revenged by their enemies with like examples of cruelty."[46] Clearly these trans-frontier linkages show that Lattimore's idea of a marginal population in a frontier region, with the people on each side forming a functionally joint community, is applicable to the Ottoman-Habsburg frontier.

There were other ways in which the population of this region shared ties that crossed political boundaries. As stated above, the local population was still Hungarian even though Hungary was divided between Habsburg and Ottoman rule. The people living on both sides of the border shared a common identity as Hungarians.

They also shared something less pleasant. Peasants along the frontier paid taxes to the representatives of both imperial powers. Hungarian landlords and nobles who had held lands in the region occupied by the Ottomans but had fled to areas outside Ottoman rule still considered those lands subject to their taxation and their raids into Ottoman territory often had as their goal collection of taxes from the Hungarian peasantry. At the same time these peasants also had to pay taxes to the local Ottoman officials. The Ottomans, too, saw the political boundary as permeable for tax purposes and were able to extract payments from the peasants living well within the Habsburg defensive line. This practice of double taxation led to what one author has called "something like an Ottoman-Hungarian codominium" in the occupied regions of Hungary.[47]

Paying taxes to the two imperial powers bound the peasants on both sides of the political boundary into a single frontier community. Taxation also led to linkages between the upper levels of frontier society. The letters of the pashas of Budin collected by Gustav Bayerle frequently mention problems in collecting taxes. The pashas often justified Ottoman raids into Habsburg territories by claiming that the troops were collecting back taxes. There were also complaints that Habsburg frontier troops threatened the local villagers with impalement if they paid the Ottoman authorities.[48]

The most compelling evidence in the letters of the development of some sort of commonality between Habsburg

and Ottoman troops is the frequent requests that Habsburg authorities assist in the collection of Ottoman taxes. The Ottomans claimed the right to collect from villages found in Ottoman registers made at the time of the 1566 conquest of Szigetvar.[49] Some of these villages later fell under Habsburg control, but the Ottoman authorities continued to claim the taxes. The letters are full of requests that the Habsburg frontier commanders compel the villagers to pay the Ottoman duties or submit to registration.[50] These requests do not seem to be considered extraordinary in the course of the diplomatic correspondence, and it is possible that the Habsburgs also asked for Ottoman assistance in collecting from certain villages. What this does show is cooperation between the commanders on both sides of the border—yet another aspect of the commonality of the frontier population. Ultimately the burden of paying taxes to authorities on both sides of the border helped to devastate the economy of the central part of Hungary.

Double taxation was not the only economic activity that brought together the population of the frontier. Trade across the border, and the taxes it generated, was important to both empires and their representatives in the frontier region. Freedom of trade between Habsburg and Ottoman territories was guaranteed in the 1606 treaty of Zsitva-Török and full capitulations were granted to Habsburg merchants in 1617.[51] Although exports from Hungary to the west declined as the century progressed, the Hungarian trade in cattle and wine continued to forge economic ties that crossed the political division between the Habsburg and Ottoman states.

The Hungarian cattle trade was well established before the Ottoman conquest and continued under Ottoman rule. In the first half of the seventeenth century, tens of thousands of cattle raised on the Hungarian plains were driven west to supply the demand of Vienna and Venice. The Venetian trade was particularly important. In the 1620s, Venetians purchased between 18-19,000 head of cattle, 14-18,000 head in the 1630s, and 13-16,000 in the 1640s.[52] Italian merchants purchased cattle

at markets in Hungary and drove the herds through the Ottoman-held Balkans to ports along the Adriatic coast.

Consumption of meat in both Venice and Austria declined in the latter part of the century, and many Hungarian cattle merchants went bankrupt.[53] Cattle that had been driven across the frontier to Vienna began often to be brought back unsold.[54] As the cattle trade declined, the production of wine, the second most important export, increased. Viticulture replaced animal husbandry among the farmers of both Habsburg- and Ottoman-controlled Hungary. Wine was exported along the same routes that crossed the frontier, thus continuing the economic linkages that bound together the frontier population.

The early-modern Ottoman-Habsburg frontier in Hungary was clearly a region filled with economic opportunities for the transitional local population. The garrison troops manning the frontier outposts made the most of these opportunities. Whether through trade, raiding, or some combination of the two, the soldiers of both empires sought to improve their economic standing through frontier service. In subsequent chapters the lives and activities of these troops, and their connections across the frontier, will be further examined.

# 2

# The Fortresses

Fortresses were the most important element in the defense of any early-modern frontier. Ranging in size from small timber and dirt-walled palisades to the giant bastioned plans perfected by Coehoorn and Vauban, forts were vital to both defense and offense. An invading army had to reduce any fortresses on its line of march or suffer attacks to its rear by the resident garrison. By the seventeenth century military campaigns more often took the form of a series of sieges rather than a set battle between two field armies. Forts also could aid an offensive action, acting as supply depots and bases for reserve troops.

The struggle for control of fortresses was the hallmark of the major Ottoman-Habsburg campaigns of the seventeenth century. The Long War that opened the century resulted in the Ottoman conquest of Kanije, the 1663-64 war in Ottoman control of Uyvar and Novigrad. The century's closing years were marked by the abortive Ottoman siege of Vienna in 1683, and the wars with the Holy League that followed. These last campaigns ended with the Habsburgs capturing Ottoman forts north of the Danube. Between the major campaigns, military action still centered on the

forts. As discussed in Chapter One, garrison troops from both sides carried out raids across the frontier.

This chapter will focus specifically on the fortresses along the Ottoman-Habsburg frontier. I begin with a discussion of the technical and military aspects of siege warfare in the seventeenth century. This general discussion will provide the necessary context for the assessment of Ottoman siege efforts which follows in the next section. The last section of the chapter deals with the architecture and equipment of Ottoman fortresses, as well as Ottoman defense of their forts.

## Seventeenth Century Siege Warfare

*New Fortification Styles*

Advances in artillery in the late fifteenth and early sixteenth centuries led to new designs for fortifications in Western Europe.[1] These innovations, in turn, led to the development of new methods of attacking and defending forts. The Ottomans were well aware of these developments, and became quite skilled at conducting sieges, as is evident from the course of their military activities during the sixteenth and seventeenth centuries. Before assessing how well the Ottomans adapted to the new requirements of siegecraft, however, we must first understand the nature of the new fortifications and the new methods of siegecraft.

Most of the early innovations in fortification developed in Italy; thus the new designs became known as the *trace italienne*. The high masonry walls of medieval castles were too susceptible to gunfire, so engineers began to build lower walls, backed with earth, to withstand artillery. Towers were also lowered and reinforced to act as stable gun platforms. The profile of the fort was lowered even more by the expansion of the ditch. Ditches not only protected the lower parts of the walls from artillery fire, but also acted as a further obstacle to a besieging force, who would have to fill in the ditch in order to cross it. Furthermore, a firing platform, called the "covered way," was cut into the outer rim of the ditch, where men and guns could be placed. The area

beyond the ditch, called the "glacis," was built with a descending slope to provide a clear range of fire, as well as to protect the covered way and the walls behind it.

The most recognizable feature of the *trace italienne* was the bastion, which produced the star-shaped outline characteristic of early modern fortification. The bastion was a low wedge-shaped tower projecting from the outer wall of the fortress. The angled faces of a bastion allowed gunners on neighboring bastions to have a clear field of fire in front of the tower, eliminating the dead ground where previously defensive fire could not be brought to bear. The long faces of the bastion provided more space to mount guns. A series of bastions could provide supportive defensive fire and keep enemy troops away from the walls. Over time, the addition of bastions and expansion of the ditch led to larger forts with increasingly complex defenses.

Besieging and taking such a fort was a time- and labor-intensive process. When an attacking army arrived at a fortress, it would have to stop well outside of artillery range. A siege was best begun at night, when the attackers could surround the fort without being detected.[2] It was important to keep the garrison trapped inside the fort; any weakness in the lines surrounding the fort could be the target of sorties by the defenders. Troops were also assigned to patrol the surrounding area to detect and prevent attempts to relieve the besieged fort. The inner line of troops, designed to confine the garrison, was called the line of contravallation. The defensive line at the exterior of the besiegers' camp, was the line of circumvallation.

The two competing, but interrelated, factors in any siege were the trenches and the artillery. Artillery fire from the fortress forced a besieging army to take cover. At the same time, the besiegers needed to bring their own artillery close enough to the fort to begin battering the walls. The only way to advance toward the fort was through a series of trenches that could protect the attackers from the fort's guns. As the trenches moved forward, they were also spread out to the sides, parallel to the face of the fortress, and cannon were mounted in batteries that could fire on the fort.

*The Trenches*

The trench attack was the most time-consuming and labor-intensive aspect of a siege. Sappers would work in teams of several men to lengthen the parallels and advance the approaching trenches. The first man would crawl forward on his knees and roll a large gabion—an earth-filled barrel made of branches—ahead for cover. The gabion was one of the ubiquitous tools of siegecraft, as were fascines, bundles of small branches and sticks bound together. Both were used for temporary cover, until more solid earthworks could be built. Often cavalry troops were used to gather wood and make gabions and fascines.

The lead sapper would dig only a shallow trench. Vauban recommended one a foot and a half wide by two feet deep.[3] The following sappers would deepen and widen the trench as they advanced. Trenches were dug four to five feet deep and anywhere between six and twelve feet wide,[4] with the approaches made wider than the parallels, to allow for troop and artillery movement. The approach trenches were laid out in a zig-zag pattern, to prevent enfilade fire from the garrison.

In excavating parallels, the lead sapper would place smaller gabions on the forward side of the trench, which would be filled and strengthened to act as the parapets of the trench. Ledges could also be built into the parallels to act as firing platforms for the infantry assigned to the trenches. The rear sides of the parallels were cut at a slope, to allow besieging troops to retreat in the face of a sortie by the garrison. The purpose of the parallel trench was to create a front facing the walls. The besieging force's artillery was brought forward to the parallels and batteries were established to batter the walls of the fort. Lodgments were excavated in the parallels, to house troops and workers. Redoubts were also built, to act as gathering points for either offensive or defensive action.

Hundreds of men were needed to dig each trench, and siege works could advance along a number of approaches. Vauban states that the number of men needed to dig two trenches could "run to a thousand or twelve hundred without overdoing it,"[5] and

many sieges advanced along multiple parallels. Making trenches was much more than simply digging. It was a multi-faceted construction project that required the skills of a large number of craftsmen, including carpenters, blacksmiths, cartwrights, terrace-makers, miners, and those skilled in wicker-work. There were also numerous support personnel such as cooks, replacement workers, and those responsible for supplies. Tens of thousands of men were needed just to build and maintain the siege works. Add in the great number of combat troops in contemporary field armies, and it becomes clear that seventeenth-century siege armies could employ well over 100,000 men.

Time was of the essence in sieges. The attackers had to advance and take the fort before a relief force could come to raise the siege. Success depended upon how fast the trenches could be excavated and advanced. Factors that affected advancement were the number of workers available, the supply of tools and equipment, the terrain, and the opposition of the defenders. Vauban indicates that sappers could advance the approaches an average of 120 yards a day. Parallels, being better covered from enemy fire, were lengthened at a faster rate—as much as twice that of approaches.[6] Accounts of later sieges lead to a more probable average advance of 80 yards a day.[7]

*Breaching the Walls*

The goal of the trench attack was to bring cannon close enough to the fort to batter the defensive works—probably within two to three hundred yards.[8] Gunners in the batteries had several goals. The first was to eliminate the defenders' cannon, thus making the approach toward the fort much safer. The defensive batteries of large guns mounted on the bastions and walls were thus the first targets. It was also important to keep the walls clear of the smaller cannon and muskets used against the sappers. The second task of the besieger's artillery was to fire upon the troops and buildings within the fort. Gunners became adept at ricochet fire, where the cannon ball would just clear the walls of the fort and then take a series of bounces, crushing men and equipment

in its path. Iron balls could be heated red-hot and fired over the walls to ignite wooden buildings.

Mortars were also used to loft bombs into the fort. The bombs ranged in size from small grenades used against troops, to larger models designed to penetrate the cover of gunpowder magazines or water cisterns. Detonating the large explosives stored in a magazine could do spectacular damage to the fort, and was often the proximate cause of a fort's surrender, as at Budin in 1686.

The final, and most important, artillery objective was to breach the walls with cannon-fire, allowing troops to enter the defenses, and ultimately, take the fort. The batteries in the trenches were usually comprised of four to eight guns, each throwing balls of 24 pounds.[9] Shots would be targeted first at the base of the walls, then be aimed successively higher, until the masonry would crumble down into the ditch. The point was not to blast a hole straight through, rather it was to fill the ditch with enough debris to make a ramp up which troops could move.

An alternative to breaching by artillery was mining under the walls to bring them down. Mining was a long-standing siege technique. Before the advent of gunpowder weapons and the new larger forts built to withstand them, mining consisted of digging under the fortress walls and burning through the support beams to bring them down. Developments in gunpowder provided miners greater destructive power, but also presented greater challenges in facing modern fortifications.

Mining took two forms. The relatively simpler method was called "attaching the miner" and began when the trenches reached the ramparts. At that point, miners would excavate a gallery in the base of the wall. This could then be expanded into long branches running to the left and right, and ending in larger chambers. The chambers were then filled with gunpowder, and a fuse was laid running back down the tunnel, where the miners could set off the charge from relative safety. The blast would bring down the wall in a similar fashion to artillery fire, filling the ditch with debris.

More complicated, but potentially more powerful, was the deep mine, which began outside the glacis and tunneled underneath the ditch to the foundations of the walls on the far side. A shaft would be sunk deep enough to burrow under the ditch, and then tunnels would be advanced toward the fortress walls. These mines could be made deep enough to pass under even a water-filled ditch, although the depth of the mine was limited by how well ventilated the tunnels were built. Once under the walls, branches would be excavated and charges set as with other mines. The branches were built with a number of right angle elbows in them. This prevented the force of the explosion from coming back down the tunnel, rather than being directed upward against the walls above.

Deep mines could produce formidable destruction. Hundred of pounds of powder were used in the mine galleries. Instead of knocking parts of the walls down, as "attaching the miner" accomplished, deep mines destroyed the entire section of wall above them, as well as much of the surrounding fortifications. The shock wave from the blast could also crush other tunnels and damage walls in other parts of the fort.

To defend against mine attacks, fortress designers built counter-mine tunnels and galleries in the fortress walls. Garrison troops could use these tunnels to listen for the sound of the attackers digging their own mines. Defenders could then set off explosives to destroy the mines before they were completed. Troops were often sent down the counter-mines to break through to the enemy tunnels and sortie against the attackers. The garrison thus could find itself actively fighting off advances both above and below ground.

Mining was perhaps the most technically complex of all siege techniques. Highly skilled men were needed who understood tunnel construction and proper ventilation, and who could calculate the amount of powder needed, as well as construct and set off the charges. Men experienced in mining coal and other minerals were recruited for this dangerous and demanding work. Experienced military engineers and officers were also needed to direct the work.

Once the fortress walls were breached and the attackers established themselves inside the fortifications it was only a matter of time until the fortress was taken. In most seventeenth-century sieges in Europe the garrison commander would surrender after the enemy secured their breach in the ramparts. He would call for a parlay with the commander of the siege army, and they would negotiate the conditions of the fort's capitulation. Often the garrison was allowed to leave the fort with their weapons and colors. The victorious forces would then turn to the task of dismantling their siege works, and repairing the fortifications.

**Ottoman Siegecraft**

The Ottomans developed highly successful siege methods through their experiences in the late sixteenth and seventeenth centuries, and enjoyed a great reputation for conquering fortresses.[10] The Long War with the Habsburgs, the sieges of Baghdad in the 1620s and 1630s, and especially the campaigns in Crete and the long siege of Candia gave the Ottomans ample opportunity to test and refine their technique. Officers who fought at Candia in the early years of the siege later used their knowledge in other offensives. Contemporary Habsburg and Ottoman writers alike refer to Candia as a training-ground for future sieges.[11] Some of the skills the Ottomans acquired there were learned from foreign experts. Assistance from the Dutch, English, and French was important in the final resolution of that siege. This help was particularly useful in the effective use of bombs and mortars.[12]

The Ottomans were seen as relentless in pursuing their military goals. Raimondo Montecuccoli, the Habsburg general who defeated the Ottomans at St. Gotthard and wrote several volumes on fighting the Turks in Hungary, said:

> They break the walls and ramparts with continuous batteries, using a large number of artillery of large caliber, dig ditches to the water, fill them with sacks of sand and wool, fascines, and other materials. They make galleries, push up

> mountains of dirt able to withstand many cannonballs, which are the height of the walls and earthworks of the besieged fort. They make mines, plain, double, and triple the size of ours, set deep and which can use 120, 150, or more barrels of powder, undermining, like the Romans did, the walls and wood supports, making them susceptible to fire in such a way to bring down a long face of the walls. They worry constantly, and are stubborn in attack and defense.[13]

He also praised their organization, writing that the Ottomans did not waste time and money in "expeditions of small moment," and that they worked methodically, reducing forts along the way to their goal, rather than bypassing one fort to attack another.[14]

When they arrived at a fortress, the Ottomans were careful to choose where they would focus their attack and begin their trenches. They would reconnoiter the fortress and find its weak points. The *Silahtar Tarihi* records how the Ottoman commander at the siege of Novigrad, Kaplan Mustafa Pasha, fully scouted the fortress, town, suburbs, and surroundings before beginning his siege.[15] The Ottomans attacked on a wider front than their European contemporaries.[16] Also unlike their opponents, the Ottoman camp was established without a fortified line of circumvallation protecting its rear.[17] This is not to say that the Ottomans were unconcerned about attacks from armies sent to raise the siege. Instead of fortifying their camp against such onslaughts, they relied on the Crimean Tatars to act as a covering force for the siege. This alliance with the Tatars, whose Khan recognized the suzerainty of the Ottoman Sultan, allowed the Ottomans to keep their main force united and concentrated on the siege.

During campaigns in the West, it was traditional to set the Tatars loose against the Hungarian countryside.[18] As Montecuccoli put it, the Tatars were sent to "destroy, damage, raid, brutalize, sack and humiliate the countryside."[19] These raids served several purposes. Supplies for the siege force, including food and building materials, were acquired during the Tatar raids.

This not only supplied the attackers, but denied the same goods to the defenders or to a field army moving toward the siege. The Crimeans could also keep an eye on and harass such a relief force. Finally, the devastation of enemy territory dealt an economic and psychological blow to the local population.

*The Trenches*

After determining the best area to attack, the Ottoman army began its trenches. The construction was supervised by military engineers.[20] Ottoman approach trenches, called *siçan yolları*, were longer and deeper than the Europeans'.[21] These trenches were intentionally made to wind back and forth to provide cover from defensive fire from the fort. Ottoman sources call the *siçan yolları* "snake-like and twisting."[22] The approaches did not have the more exacting angles described by European engineers like Vauban. Parallels, called *meteris*, branched off from the approaches. Two or three steps were cut into the forward side of the parallels to act as firing platforms for the troops stationed there.[23] The ends of the parallels curved back, and communications trenches were made to connect to other *meteris*. These end points also housed batteries and redoubts of various types. In addition to artillery batteries, the Ottomans built musket batteries, or *tüfenk tabiyesi*, along the parallels.[24] Because of the larger number of parallels, and the communication trenches at their ends, Ottoman siege works had more of a grid-like appearance than European works.

Traditionally the Janissaries were in charge of digging, although as manpower demands grew through the seventeenth century other types of troops and non-combatants also joined the *yeniçeri* in the excavations.[25] Evliya Çelebi, in his account of the 1663 siege of Uyvar, describes how extra troops were assigned to the trenches, particularly the *sekban* units.[26] The Janissaries were perceived to be better at digging than European armies in that they dug sitting cross-legged on the ground instead of kneeling. This posture was not only more comfortable for the troops, but also provided better cover as the men worked.[27]

Janissary tactics in the trenches also differed from contemporary European standards. The Janissaries entered the siege works by company, and did not leave the trenches until the siege was over.[28] They carried water, firewood, food, and even their tobacco with them and established barracks in the trenches. The trench barracks were built at the end or middle of the parallels.[29] As the approaches lengthened, the troops would move forward. The Ottomans assigned more troops to the trenches than the Europeans.[30] By placing a large part of the fighting force at the head of the trenches, the Ottomans were difficult to dislodge by a sortie and were able quickly to move large numbers of men into a breach to take and hold new positions.[31]

The Ottomans drew on the great resources of their empire to supply their siege efforts. The major requirement of a siege was effective manpower, and the Ottomans were able to field large armies. The Janissaries and the other troops of the imperial household made up the core of the army. As manpower needs increased during the sixteenth and seventeenth centuries, more irregular troops also were recruited. Chapter Three provides a complete discussion of the different types of troops found in garrisons, and many of the same auxiliary units—*azeb*, *faris*, *sekban*—served in the field army during siege operations. Furthermore, non-combatant trench diggers and other support personnel were often levied from the Ottoman population.[32]

While the *yeniçeri* and irregular infantry troops dug and manned the trenches, the *sipahi* cavalry had their own siege-related assignments, more suited to their skills. They scoured the surrounding countryside collecting materials to be used in the assault. It was their task to make fascines and gabions and assemble other tools for digging.[33] The cavalry troops were vital in defending against sorties from the fortress and in assaulting any breaches in the walls. The Ottomans were known for building up mountains of earth higher than the bastions of besieged fortresses and using these as staging grounds for cavalry assaults.[34]

Rhoads Murphey has estimated that a seventeenth-century Ottoman army would total a maximum of 65,000-70,000 men.[35] This number would include approximately 50,000 timariot troops and 20,000 Janissaries and other household troops, but does not take into consideration irregular forces. Additional levies of workers could total 20,000-30,000 more men. In his discussion of the siege of Baghdad in 1638 Murphey cites a figure of 20,000 diggers and 7,000-8,000 trained miners recruited for the siege.[36] Accounts of the second siege of Vienna in 1683 list between 20,000 and 32,000 sappers, miners, and other support personnel.[37]

The Ottoman empire encompassed many areas rich in mineral resources, and thus had access to large numbers of experienced miners.[38] These men used their skills in constructing the trenches and batteries, as well as digging and placing explosive mines under the fortress walls. But miners were not the only skilled workers available for sieges. The Ottomans enjoyed an advantage in the number of trained men they could put to work building siege works.[39] Some of these men came from the ranks of the army, but others were troops from the retinues of local commanders, or peasant levies. Rewards as well as coercion were used to recruit trained men to dig trenches. Montecuccoli reports that Ali Pasha gave out over 50,000 thalers in incentives during the siege of Varadin.[40] At Vienna sources list as many as 5,000 paid miners working in the Ottoman trenches.[41] Although these figures may be exaggerated, like those in many contemporary records, the large numbers give a sense of the perceived scale. Clearly large incentives were offered, and many miners and other skilled workers were needed to conduct a siege.

*Ottoman Artillery*

European military historians long held that the Ottomans favored size over mobility in forging cannon in the sixteenth and seventeenth centuries. Ottoman guns were all thought to be huge, and some notable ones were. Accordingly, they argued that the size of these guns explained the Ottoman lack of effective field pieces. Recent scholarship incorporating a wide variety of

Ottoman sources has shown that the Ottomans were not deficient in artillery. Gábor Ágoston has demonstrated that the Ottomans had the same breadth in their artillery parks as did contemporary European states. He argues that the Ottoman emphasis on sieges in the sixteenth and seventeenth centuries led them to develop artillery best suited to that purpose, rather than more-mobile guns for use on the battlefield. Even though large guns were necessary for sieges, Ágoston's investigation into castle inventories and the production records of the cannon foundry at Istanbul, the Tophane, shows that the Ottomans could and did produce small guns, and did not inappropriately emphasize cannon of large size.[42]

Still, large cannon were necessary for siege duty, and the Ottomans had a variety of battering guns at their disposal. One difficulty in developing a typology of Ottoman artillery is that the same names were used for guns in a variety of different sizes. Thus, cannon called *balyemez*—usually considered the largest of Ottoman guns—were recorded firing a variety of shot. Claims for the origin of the name *balyemez* are equally varied. Evliya Çelebi gave a fanciful etymology for this term, writing that it was named for a gun-founder who ate no honey (Turkish *bal yemez*, literally "one who does not eat honey"). More convincing sources trace it to a famous German gun called "*Faule Metze*," or to a gun large enough to fire two balls connected by a metal bar, a device called in Italian *balla ramada*.[43]

Whatever the origin of its name, the *balyemez* was a *menzil top*, or long-range gun, and was used to batter fortress walls.[44] Guns called *balyemez* are recorded throwing balls in a wide range of weights: 25, 30, 40, 50, and even 60 *okka*.[45] Most common, however, were pieces throwing 10-40 *okka*, with the majority at the lower end of the range.[46] Late seventeenth-century inventories list 39 *balyemez* of 14-22 *okka* throw-weight in the fort at Baghdad, and new pieces of 11-14 *okka* cast at Tophane.[47] A ball of 11 *okka* would weigh around 31 pounds. As seen above, European siege guns were usually 24-pounders, so the Ottoman battering pieces were slightly larger. In addition to their larger

size, Ottoman guns were reported to load more powder than European weapons.[48]

Among the other large guns often found in siege batteries was the *bacaluşka*, possibly the equivalent of the gun called the basilisk in the West. It is not surprising that the Ottomans would adapt European names for their cannon as the technology of gun casting, and in many cases the guns themselves, were of European origin.[49] The *bacaluşka* took large shot, variously reported at 11, 14, 16, 18, and 20 *okka*. On average these guns fired a ball of 16 *okka*.[50]

The large gun called *şayka* was another type associated with sieges, but usually on the defensive side. Again, there is some confusing nomenclature. There was also an Ottoman boat called *şayka*. Cannon used on these boats may have adopted this name, and later the same name may have been applied to guns used on land.[51] The *şayka* came in varying sizes, with truly enormous pieces throwing as much as 80 *okka* balls. The larger varieties of *şayka* were mounted in fortresses and used to fend off sieges.[52]

Smaller-sized artillery also had its place in Ottoman siege trains. Smaller guns could be set up as counter-batteries to fire upon the defensive guns on the fortress ramparts or used against enemy troops. The *kolumburna*—clearly the Western culverin—was in use by the Ottoman army for both sieges and field engagements.[53] These guns were reported to throw 11 *okka* balls, but guns of this type described by Fındıklılı Mehmed Ağa in the *Silahtar Tarihi* were smaller, using shot of 3-9 *okka*.[54] The *şakaloz* was another small gun in frequent use. It was a light gun throwing shot of 2-5 *okka*.[55]

Murphey states that the *zarbuzan* or *zarbzan* was the most common type of Ottoman cannon.[56] This name was given to very small pieces, throwing only 1 or 2 *okka*.[57] There were, however, larger guns with the same name firing much larger shot. One piece called *zarbuzan-i şaika-i büzürg* was recorded at 36 *okka*.[58] These larger guns may be what the *Silahtar Tarihi* calls *şahi zarbuzan*, which were used in great numbers during the 1683 campaign against Vienna.[59]

The typical Ottoman siege train contained around the same number and size guns as that of their contemporaries in Europe. Vauban advocated batteries of four to eight large guns each. As an example, at the 1660 siege of Varad the Ottomans established like-sized batteries on four sides of the fortress. Two contained seven *balyemez* each, one five unspecified guns (called simply "*top,*" or "gun"), and the last, ten *şahi top*, which may have been the variation of *zarbuzan* mentioned above.[60] Similarly, at the 1663 siege of Uyvar the Ottoman artillery was arranged in four batteries of 3, 6, 7, and 8 *balyemez* respectively. These were large guns, throwing shot of 24 *okka.*[61]

In addition to cannon, the Ottomans used a variety of other gunpowder weapons in sieges. Mortars, called *havayı*, were common, as were a variety of bombs, called *humbara* or *kumbara.*[62] These were either launched from mortars, or thrown by hand. A separate corps of the army, the *humbaracıyan*, or bombardiers, was responsible for these devices.[63] As seen above, the Janissaries established musket batteries in the trenches to fire on enemy troops and to repel sorties. Ottoman muskets were longer than European small arms, and of smaller caliber. The iron was of high quality, so the Janissaries could load them with more powder, thus shooting farther than European weapons.

*The Mine Attack*

Of all the uses of gunpowder during a siege, the Ottomans were best at the mine attack. Their expertise was based in part on experience and in part on access to communities of trained miners. The Ottomans recruited siege miners from among men well-versed in the technical aspects of working underground. Many of these men were from minority populations, such as Armenians, Greeks, and Bosnians.[64] A miners corps, the *lağımcı* corps, was part of the Sultan's regular army, and other skilled workers were recruited as needed.[65]

The Ottomans began their mines either on the glacis, or, if the trenches had advanced far enough, on the inside wall of the ditch. They built a semi-circular redoubt, the *lağım tabiyesi*, at the opening of the mine where the miners would erect a post in the

direction the gallery was intended to run. A plumb line hanging from this post would be lined up with a candle at the far end of the shaft to keep it straight. Like the sappers in the trenches, miners dug sitting down, and this kept the gallery ceiling low. Ottoman galleries were also kept narrow, which, though making it difficult to load the mine assured a good effect when the mine was set off.[66] These long narrow mines were called *kubur*.[67] Typically, the Ottomans constructed several galleries, and filled in any extra space around the powder with sacks of dirt and wool, again to focus the explosive force.[68] Mines were charged with two or even three times the powder that European armies would use in the same space.[69]

Ottoman mine attacks were so effective that the Habsburgs devoted a great deal of effort to building counter-mine systems in their fortresses. Marsigli wrote "the princes who hold forts on the border spare no expense, build counter-mines not only in the fort, but in the glacis and counterscarp to weaken the force of the mines."[70] Montecuccoli was also a proponent of the counter-mine, and cited numerous examples where their use stopped an Ottoman advance. He felt that Habsburg troops could not equal Ottoman forces during sorties above ground, but because of the close quarters and necessarily fewer troops involved, they could find an advantage in subterranean battle.[71]

*Military supplies*

Successful siege warfare was an expensive proposition, demanding large numbers of men and materiel.[72] As has been seen, the Ottoman Empire was rich in the manpower needed for siege operations. Similarly, the Ottomans had vast material resources to draw upon during campaigns against fortresses. Iron, lead, and copper mines provided the raw materials from which artillery and cannonballs were cast. The forests of the empire provided the timber used for gun-carriages, tent-posts, tool handles, braces for tunnels, and myriad other purposes.

Ottoman narrative texts are very useful sources about campaigns, but they rarely give exact enumerations of men or supplies. Western sources or Ottoman archival documents

provide better information of this type. The following list of items found in the Ottoman camp after its capture by the relief army led by the Polish king Jan Sobieski, compiled from European narratives of the 1683 siege of Vienna, shows what kind of supplies the Ottomans used during a major siege.[73] Although it is far from a complete record of all the equipment the Ottomans used during their operations, it does give a sense of the breadth and scale of siege supplies:

| | |
|---|---|
| Lead, in quintals | 4000 |
| Unwrought iron, in quintals | 50 |
| Powder, in quintals | 4000 |
| Great bombs | 1000 |
| Whole cannon | 4 |
| Great and small ordnance | 107 |
| Mortar pieces | 10 |
| Janissary guns | 500 |
| Janissary powder horns | 200 |
| Leather pouches for powder | 20000 |
| Bullets of all sorts | 18000 |
| Bellows for "red bullets" | 4 |
| Fire bullets | 2000 |
| Large muskets to shoot grenades | 200000 |
| Catapults for throwing bombs and stones | 40 |
| Hand grenades of brass | 18000 |
| Hand grenades of iron | 2000 |
| Match, in quintals | 6 |
| Large tubs for the mines | 200 |
| Sleeves for extinguishing the bombs | 40 |
| Wood implements for raising bombards | 2000 |
| Handpikes, in quintals | 50 |
| Halberds | 2400 |
| Pitch and tar, in quintals | 50 |
| Pans for burning pitch | 1100 |
| Large cables | 16 |
| Oil, in pounds | 600000 |
| Saltpetre, in quintals | 50 |

| | |
|---|---|
| Pickaxes and shovels | 10000 |
| Instruments for digging mines | 30000 |
| Canvas, in quintals | 50 |
| Sacks of hair for sand | 200000 |
| Sheep skins | 4000 |
| Thread of camel and ox hair, in quintals | 20 |
| Sacks of wool made of trees [?] | 50 |
| Empty wool sacks | 1000 |
| Horseshoes with nails, in quintals | 80 |
| Plates of iron for buckler | 2000 |
| Grease and tallow, in quintals | 100 |
| Large lanterns | 1500 |
| Large iron anvils | 16 |
| Wagons | 200 |
| Empty carriages for ammunition | 8000 |

Much of the captured supplies were artillery or materials used with the artillery, including the 4 whole cannon, 10 mortars, and 107 pieces of "great and small ordnance." Much of the unwrought iron may have been intended for casting into guns at the site of the siege, a common Ottoman practice. Similarly, the lead may have been used for bullets. Enormous supplies of bullets, grenades, and other projectiles were left in the Ottoman camp. One can extrapolate that the total supplies were much greater, some being used during the siege and some taken away by the fleeing Ottoman forces.

A tremendous amount of powder was left in the camp giving an idea of how much powder was used during a siege. 4000 quintals, over 400 tons, of powder was taken back to Vienna after the Ottomans fled. Again, this is only what was unused and abandoned after several months of the siege. The Ottomans had been very actively firing on the city and setting off mines throughout the siege.

Equally large amounts were allocated to Ottoman forts during the 1663 campaign against Uyvar. For that project, approximately 357 tons of powder were distributed to Ottoman forts in Hungary, with 184 tons allocated to the attack on Uyvar

itself.[74] Like casting of cannon, powder production may have been carried out on-site, as evidenced by the large supply of saltpetre listed among the siege supplies.

Some of the other listed items were used in bombarding the fortress. The 6 quintals of match were used for cannon, other fire-arms, and to set off mines. The 400 sheep skins may have had other uses, but the Ottomans were also know to wrap a sheep skin around a cannon ball, thus ensuring a tighter fit in the cannon barrel and a more effective use of the gun's charge.[75] Projectiles designed to set fire to the fortifications were also commonly used, and the list shows supplies such as tar, pitch, pans for burning pitch, fire bullets, and bellows that could be used to this end. It is interesting that despite the importance of gunpowder weapons, 40 catapults were found in the Ottoman camp. Clearly, the introduction of new weapons did not completely end the use of older ones.

Several captured items would have been used for the transportation of the army and its supplies. These include the 80 quintal of horseshoes and nails, the 200 wagons, and 8,000 empty ammunition carriages. This last item, the ammunition carriages, also gives an idea of how much ammunition was used at the siege.

Much of the rest of the abandoned equipment was for the construction of the siege works. Thousands of picks, shovels, and other excavation tools were captured. Hundreds of thousands of sacks were found as well. Sacks had myriad uses during a siege. They could be filled with sand and added to the tops of trench walls for extra protection, used to haul away dirt from trenches or mines, or filled with powder and piled in the gallery of a mine. Lanterns were used for work at night in the trenches or to light passages in mines. The other supplies—oil, cable, grease, tallow, and anvils—could be put to many purposes in the course of the siege. As will be shown, many of the same kinds of supplies were stockpiled in fortresses along the border. This equipment was both of use to a fort's garrison, and was available to the field army when it was campaigning in the region.

## Ottoman Fortresses

*Architecture*

It is difficult to find much contemporary information about Ottoman military architecture in the seventeenth century.[76] Unlike their European counterparts, Ottoman military engineers did not leave behind treatises on fortifications or plans for their projects. Nor are there extant fortress plans available in archival collections. This is due in part to the nature of the building trades in the Ottoman empire. Specialized technical knowledge was the provenance of specific craft guilds, and as such may have been kept as a secret among the masters. European experts may have served the Ottomans, but they too left no written traces.[77]

Narrative sources are equally vague on the details of fortress construction. For example, the *Silahtar Tarihi* records the construction of a new fort at Boğaz Hisar in 1069 A.H./1658-9 C.E.[78] Fındıklılı Mehmed Ağa writes only that the architects of the empire were gathered under the *mimar-i hass*, and construction began at an auspicious moment. He adds that the fort they built was 300 ells in length and width, and was constructed with great care and in a short time. Nothing is said of the number of men working on the fort, nor of the design or armaments. More emphasis was placed on who commanded the fort than the process of construction.

Constructing a fully-bastioned fort was enormously expensive. Few early modern states could afford to build more than one or two forts that employed all the recent innovations in fortifications. Much more common was refurbishment of older forts by adding a few bastions or modern outer-works, as was the case on the Ottoman-Habsburg frontier. The Habsburgs fully modernized the defenses at Yanık and Uyvar, but the other outposts along the frontier were only partially improved.[79] In both cases, despite the improvements, the forts ended up in Ottoman hands.

When the Ottomans did build forts, they did not build large, up-to-date structures. Ottoman forts were not as well designed and built as European ones. Montecuccoli describes them as

inferior and notes that they were not built in a "modern" style, lacked real flanks, were narrow, open in the middle, and made of wood.[80] He also thought little of the layout of the towns associated with the forts, writing that the suburbs were open, and many houses were built distant from the walls of the fortress.[81]

The smallest Ottoman frontier forts, called *palanka*, were simple wood palisades surrounded by a ditch. Larger forts were built in a similar style. The perimeter was made of a double stockade of tree trunks with the space in between filled with earth. This produced a wide earthen walkway at the top of the walls, where troops or guns could be placed. The walls were held together against the pressure of the dirt filling by transverse beams, the ends of which were held against the outer walls by large pins.[82] *Palanka*-style walls could be extended to enlarge the fort's perimeter, and bastions and other outerworks could be built in the same way.

The Ottomans did build with stone too, but tended to continue to erect high masonry walls, rather than the lower, earth-backed walls of artillery-era forts. Many forts were a mix of stone work and *palanka* style wood fortifications. One Ottoman construction method, however, was the match for cannon bombardment. The "Horasani" technique, named after the chalky soil of that region, was a method of strengthening fortress walls. The mortar used in the support pillars of the walls was made of brick dust and lime rather than sand. This made a much stronger wall, better able to withstand artillery fire.[83]

When discussing fortress repairs, the narrative sources again provide few details. In his account of the repairs to Uyvar after its conquest in 1663, Fındıklılı Mehmed Ağa writes that every effort was made to repair the fort and clear the ditch. He notes that the walls were made so sparkling that all those who saw them were pleased.[84] He does not, however, record how many men were involved in the work, how long the work took, or what damage there was to repair.

Fortunately there are some archival materials relevant to fortress repair.[85] These records provide many types of information. Detailed financial accounts not only give an idea of

the cost to the state of these repairs, but also how the money was spent. Lists of types of workers and their pay, and materials and their costs also furnish a picture of the actual activities involved in the repairs. Other documents, such as the orders from the central administration authorizing repairs, contribute to a clearer understanding of the bureaucratic process of financing and overseeing fortress repairs.

The orders for repairs seem to have originated not with the local administration but with a higher authority. Although the fort's commander probably reported to his immediate superiors as to the condition of his post, the work itself had to be approved by the central administration. Funds had to be allocated to pay for the repairs, and this often was beyond the financial capabilities of the local commander. In most cases the repairs were necessary, but sometimes unneeded work was ordered. A report from the *defterdar* of Uyvar, dated 1084 A.H./1673-74 C.E., which outlines a number of problems at the fort includes the statement that when pashas visit the fort they often order unnecessary repairs. This *defterdar* was concerned, as he could not pay for this extra work out of the local treasury.[86]

Orders for major repairs emanated from the highest sources. A financial report from 1088 A.H./1677-78 C.E. which records the expenses for repairs to the fort at Gradişka in the *kaza* of Banaluka states that the work was done in accordance with an imperial order (*emr-i şerif*) sent to the provincial commander, the *beylerbey*.[87] A pair of orders concerning repairs to Budin after the unsuccessful 1684 siege of that city by the Holy League are extant in the Topkapı archives.[88] Another, dated 1023 A.H./1614-15 C.E., ordering repairs at Eğri, bears the *tuğra*, or imperial signature, of Ahmed I.[89] It is apparent that maintaining the integrity of the frontier defenses was a direct concern of the Sultan and imperial council.

This latter *ferman*, or imperial order, mandates repairs to the fort, mosque, and imperial storehouse at Eğri, and to a smaller fort in the same jurisdiction. The order also outlines the financial resources allocated to the project.[90] Two *yük* of *akçe*, or 200,000 *akçe*, were sent along with the order to repair the fort. This

money was to have come from two separate sources. The first was the *bedel-i tüfenkci* of Bosnia, an extraordinary tax levied to support gun-carrying soldiers. The second source was the local *cizye*, or non-Muslim poll tax. Here we see local resources being allocated for the repairs, as opposed to having the requisite monies sent from the central treasury. As with *ocaklık* pay—where specific revenues were allocated to pay the salaries of garrison troops—it seems that the recipient of the grant, in this case, İbrahim, the *beylerbey* of Eğri, was supposed to collect this money himself.

The documents suggest that this plan to use local resources to finance the repairs didn't work and the funding became even more local. A note at the end of the expense accounting says that because there were difficulties in collecting the allocated funds, the *kadı* of Eğri, Mevlana Nasrullah, took over 3,000 *akçe* from the personal property of the *beylerbey* as an advance loan to cover costs. He explained that he did this in order to ensure that the repairs mandated by the imperial order were carried out.

The orders for the repairs to Budin also emanated from the imperial council. The orders date from June and September 1685, respectively—a period of respite between attacks on the fortress by the Holy League.[91] Clearly it was important for the Ottomans to fix the damage made by the 1684 siege of the fort in preparation for future actions. The first of the documents allocates 60 purses of gold coins to Mehmed Pasha, the *defterdar* of the fort, to finance repairs. Several months later, a further 50 purses of gold was sent to pay for the construction.

What kinds of work was carried out as part of fortress repairs? An unnamed *vezir* assigned to the frontier region during the seventeenth century left a report listing the repairs needed by various border forts which provides some information.[92] He seems to have surveyed the entire frontier, and indicates the needs of each fort. The fort at Temeşvar required several cannon to be put on new carriages and wheels, as well as improvements to the walls of forts in its *sancak*. In Budin, walls with stone columns and earthen towers needed repair. A great deal of work was necessary at Estergon.[93] The walls and towers of the fort

needed repair, as did the armory. Estergon was a center for the production of power and guns, and the facilities for each also needed refurbishment. As part of the work at the gun foundry, 50 cannon awaited new carriages.

Cannon required repair and re-mounting at İstolni Belgrad.[94] The report calls for two towers to be fixed and *balyemez* guns mounted on each. The gates and bridges of the fort also required work. Bridge repairs were also required at Kanije. The bridges there were to be re-built with stone brought from Peçuy.[95] The *vezir* also notes that the moat at Hatvan needed clearing and the bridge crossing it repair. Finally, in the *sancak* of Segedin[96] he calls for repairs to a number of forts and *palanka*s and suggests several more *palanka*s be built.

Expense reports reveal many details about the work that went in to fortress repairs. The accounts for the repairs to Gradişka in 1088 A.H./1677-78 C.E. were kept week by week, and list the expenses for workmen and supplies.[97] Construction was done in the late summer and early autumn, and lasted ten weeks. The craftsmen appear to have worked six-day work-weeks. The project was overseen by a group of financial officials acting as supervisors and called *mûtemed* in the documents. These men were paid quite well, earning 42 *akçe* a day. An architect, or *mimar*, was also on-site to direct the work. The *mimar* earned the most of any of the men involved in the construction, as befitted his skills and responsibilities. He earned 50 *akçe* per day. The last of the men listed who could be included among the supervisors of the project was a *çavuş*, or messenger, who earned 40 *akçe* per day.

A great number of skilled workmen were needed for the repair work. From the list of workers and supplies, it becomes clear that the fortifications being built were *palanka*-style; so it comes as no surprise that the largest number of craftsmen listed are carpenters. These men appear to have been recruited locally, and all the men from the same *kaza* worked and were paid together as a unit.[98] There were up to four different *kaza* crews working on the project at any one time. In the early weeks of the repairs around 50 carpenters labored on the project. As the work progressed, more carpenters were hired. By the end of

construction, about 115 carpenters were involved. These men were all paid 25 *akçe* a day, a relatively high salary, especially compared to that paid to other carpenters since documents that list carpenters assigned to serve in fortress garrisons usually show them earning only 6-7 *akçe* a day.[99]

Blacksmiths were also among the craftsmen working at Gradişka A master smith, paid 40 *akçe* a day, was assigned to the fort, and he had a messenger of his own, who earned 20 *akçe*.[100] Presumably, if the master smith needed assistance beyond that of his *çavuş* he would recruit a crew of unskilled workmen, as there are no other blacksmiths listed in the document.

The final group of craftsmen listed were men skilled in the construction of *palanka* walls. Building the parallel lines of upright logs, bracing them together with crossbeams, and filling the space between with earth, was a specialized task calling for experts in construction. The expense documents show that a crew of these men was called in when needed. As work progressed, the need for these craftsmen waxed and waned. In the early weeks of construction, large numbers of these men were brought in for just one day to lay out where the walls would be built. In the middle weeks of the project, a large number of workers were hired, and they worked full weeks Toward the end of the project fewer *palanka* wall specialists were needed, and the crew grew smaller. As few as nine men were working during the last week of work. These men earned 25 *akçe* a day, which was the same as the carpenters.

Of the supply costs recorded in the expense report most of the money listed was spent on various kinds of rope and lumber. The most money was spent on tent ropes.[101] Thousands of tent ropes were purchased—a total expense of over 48,000 *akçe*. Purchases of other types of rope came to almost 3,000 *akçe*. The need for rope seemed to be constant throughout the construction period. Most of the lumber purchases recorded were for thin boards.[102] Only a small amount was spent on other lumber. Lumber purchases totaled over 13,000 *akçe*.

Other recorded expenses help to shed light on the construction process. In the first week 700 *akçe* was paid out in

gifts.[103] These bonuses most likely went to the workmen as an extra incentive to begin the job. In the middle weeks of the project, money was allocated to pay for lime. Lime had a number of uses in construction, mostly as a component in a variety of types of mortar. It may have been used to help strengthen and seal the walls.

*Equipment*

The supplies and equipment that were stored and used in an Ottoman border fort can provide important insight to the lives of the men that staffed the garrisons.[104] Three inventory documents will be considered here as samples. The first two are from the Topkapı Sarayı archival collection, and each list the inventory for a single fortress. One is for the armory, or *cebehane*, at Eğri, and is dated 22 Cemaziülahır 1053 A.H./7 September 1643 C.E.[105] The other is a supply inventory from the fortress of Ada Kale on the Danube from the mid-eighteenth century.[106] Although this document is from a later period, the information it contains, taken together with the other *defter*s, is helpful in developing an idea of the equipment of seventeenth-century Ottoman frontier forts.[107]

The third *defter* is a draft financial register listing transactions by the central *cebehane* for supplies for various forts along the border.[108] The document covers a long period of time—Muharrem 1099-Rebiülevvel 1100 A.H./November 1687-December 1688 C.E.—and a wide variety of transactions. It lists purchases of equipment by the central armory, as well as allocations of munitions to fortresses. For some of the purchases, the financial source from which the costs were paid is specified. Of the identified sources, most purchases were funded from the *cizye* taxes of Edirne and the *bedel-i nüzül* of Aydin. The latter was the cash equivalent of the extraordinary grain collected as provisions for the army. This financial *defter* is not, however, without its limitations. It does not always list which fort needed the supplies. It also does not give the specific date for any transaction.

The wide range of fortress equipment can be broken down into several categories. At the broadest, these categories were armaments and support supplies. Included in the former group were artillery, gunpowder, hand weapons, armor, and the raw materials from which to produce these items. Support supplies would encompass the items the garrison used for their day to day life, such as tools, cookware, and materials to maintain the fortress.

A wide variety of hand weapons was found in fortress armories. Bows and arrows were stocked by the hundreds of thousands. There were several varieties of bow: Istanbul, Tatar and Turkmen.[109] The latter two types may have been shorter bows intended for use from horseback. There were Tatar-style arrows as well, together with other types: both Egyptian and ornamented arrows appeared in the inventories.[110]

Axes also came in several styles. Those simply called *balta* may have been either weapons or tools. It may be that axes listed as "*balta*" were used as weapons, and those used as tools were named by their purpose, for instance entries for carpenter's axes or firewood axes.[111] In some cases, there were large supplies of axes. One entry lists a purchase of over 1,200 pieces.[112] The other type of ax that appears in inventory records is a large battle ax called "*külünk-i Ferhadi*."[113] Fekete posited the term derives from the large ax used by the legendary Ferhad to split a mountain.[114]

Other inventoried hand weapons included daggers, [115] swords,[116] and several sorts of maces.[117] Armories also stocked a number of long-handled weapons, such as pikestaffs, spears, and lances.[118] The latter were probably used by cavalry forces, and were stored together with extra lanceheads.

Gunpowder and gunpowder weapons were vital supplies for border garrisons. The Ottomans possessed both the materials and the means of producing powder sufficient to their needs in the seventeenth century. [119] Several of the empire's most important powder mills were near the frontier, at Belgrade, Budin, and Temeşvar.[120] Large quantities of powder appear in all of the inventory documents. The inventory for Eğri lists the least

amount, about 300 *kantar*.[121] Allocations of powder in the 1687-88 *defter* were much larger. The arsenal at Istanbul was assigned 325 *kantar*, those at Boğaz Hisar and Karaman 1,010 and 1,573 *kantar*, respectively.[122] The inventory from Ada Kale records 2212 *kantar* of gunpowder.[123] It is possible that Ada Kale's armory stocked more than average amounts of gunpowder since it was a supply and repair depot for Ottoman naval vessels on the Danube.

Most gunpowder came from the imperial powder mills, but, like the field army, fortress garrisons were able to make quantities of powder on-site. The Ottoman lands were rich in the ingredients that went into powder and the fortress inventories show stocks of charcoal, saltpetre, and sulfur.[124] The documents show only a small amount of saltpetre stored in the fortress armories.[125] Hungary had large deposits of this resource, so it may have been unnecessary to stockpile this key gunpowder ingredient.[126] Sulfur, on the other hand, was not produced locally, and had to be shipped to the border forts. An order from 1065 A.H./1654-55 C.E. transfers 3000 *okka* of sulfur from Selanik to Kanije.[127] All three fortress inventories list large supplies of sulfur.[128]

Much of the gunpowder assigned to the fortresses was used for artillery. The number of cannon in Ottoman fortresses varied based on the size of the fort, the likelihood of seeing action, and the presence of a gun foundry. As an example of a large artillery park, an inventory from Belgrad dated 1690 lists 102 cannon and 28 mortars.[129] *The Silahtar Tarihi* records that after the conquest of Uyvar the army left 17 *balyemez* cannon for the garrison, but this does not include any Habsburg guns that were captured with the fort.[130] The arsenal inventories all list artillery, but of varied types and numbers. It is also not clear whether the artillery found in the *cebehane*s were in use on the walls of the fort, or were being stored for future use.

The *defter* for Eğri records two guns called *zarbuzan*.[131] Because there were only two, it is likely that they were the larger guns known by the same name. This supposition is made more probable by the presence of 42 *şakaloz*, or small cannon. If both

types of cannon were of similar size, they probably would have been listed together. Eğri's armory also had 4 mortars.[132] The record of border fort supply purchases provides much less information on artillery. The only cannon listed there is in an entry for 4,300 "*top-ı cedid*," or "new cannon."[133] It is not clear what type of guns these were, but the number suggests that these were small guns. The inventory from Ada Kale listed the largest collection of artillery. It records 94 cannon (simply called "*top*"), 45 iron guns left by the Habsburgs (*top demir kâfir mande*), 3 *kolumburna*, 7 small guns, and 20 mortars.[134] Again, the larger supply of gunpowder weapons may be a function of the later date of the inventory, and Ada Kale's position as a naval supply cache.

Cannon not only needed powder, but also various specialized tools for firing and maintaining them, as well as various types of ammunition. The inventory from Ada Kale lists the most diverse collection of shot, including cannonballs, grenades for the mortars, bar-shot, and grape-shot.[135] Cannonballs were stocked in the thousands. One order for supplies for Kanije calls for 10,000 to be transported there from Bosnia.[136] Seventeenth-century cannon were fired by lighting a fuse of matchcord.[137] Matchcord was also stockpiled in bulk in fortress armories, with one list recording 171 *kantar*.[138]

Muskets too used matchcord, so supplies were intended for both purposes. All the fortress inventories list muskets, but in different quantities and very different manners.[139] The *cebehane* inventory from Eğri listed only 16 muskets.[140] The *defter* covering a number of border forts recorded five separate transactions involving muskets. Of the five, two listed the purchases by price (23,000 *akçe* in one case, 170,000 in the other), two by piece (206 and 250), and, intriguingly, one by weight (954 *kantar*).[141] Unfortunately, in neither case where prices were recorded was a price per piece given, so one cannot use this source to determine the cost of a musket in the mid-seventeenth century. The Ada Kale register listed over 3,000 muskets. It is interesting to note that all of the muskets were foreign-made, called "*tüfenk-i kâfirî*," or "infidel muskets."[142] These guns may have been found in the fort when it was taken from the Habsburgs. It is also possible

that by this point in time, domestically-produced guns were less prevalent, at least among troops assigned to border forts.

Bullets for the muskets were cast from lead. The Ottoman word for both lead and finished bullets was the same: *kurşun*. Thus, when the supply records list *kurşun* it is not clear if they mean raw lead or finished bullets. In either case, this vital item was stocked in large quantities. The inventories record supplies from as small as 337 *kantar* to an astonishing 4,380 *kantar*.[143] There is also an entry for boxes of lead pieces.[144] Pieces of lead were given to soldiers so they could make their own bullets, as needed.[145]

Although not exactly a weapon, armor might also be categorized with the arms. The inventories again list a variety of armor, including helmets, shields, and arm-plates.[146] Some pieces of mail were foreign-made, and these were listed separately from the other armor.[147] Chain mail, *ahencame*, was not purchased by the piece, but rather by weight. The entries in the *defter*s are for *kantar*.[148] It is not clear what the relationship of weight to number of pieces was, but it may be that the chain mail was purchased as bulk, and then cut to fit individuals by the fort's armorer.

Transporting supplies called for its own set of specialized equipment, and this too was stored in fortress armories. Cannon needed to be mounted on gun carriages or wagons, and these conveyances required spare parts to be ready for use. The armory inventories record caches of axles, wheels, wheel rims, and wagon chains.[149] Beasts of burden were needed to haul supplies and pull wagons. The Ottomans primarily employed horses, mules, and oxen for these tasks, but camels were not unknown.[150] The supply *defter*s record purchases of pack horses (*bargir*) for use in border forts.[151] Again, the number of animals is not listed, but as much as 185,000 *akçe* was spent at one time. These horses were assigned to the forts at Gule, Nova, and Belgrad. Together with the pack animals, equipment for their care and use was also stockpiled. Armories stored saddles and stirrups.[152] Thousands of horseshoes and mule shoes were stocked.[153] From the relative number of each—2000 horse vs.

10,000 mule in one document—we get an idea of what kinds of animals were more prevalent on the frontier.

Fortresses clearly were stocked with the implements of war, as is to be expected. Cannon, powder, muskets, armor, swords—all are normal tools of the garrison's trade. It is when a fort's other supplies are considered, however, that a fuller picture of life in a garrison emerges. The variety of tools and other equipment suggests how a fort was maintained, and what were the non-military duties of the garrison troops.

Some of the most common tools in fortress armories were those for carpentry. Woodworking would be necessary to maintain or extend the *palanka*-style walls of an Ottoman border fort. Hammers of diverse types were stored in fortress armories in the hundreds.[154] Nails too came in a wide variety and in bulk: usually 20-30 *kantar* loads.[155] Tools for cutting and finishing lumber were plentiful. The inventories list a number of different types of saws from large bucksaws (*bıçkı*) to handsaws (*destere*). The latter type could be stocked in huge numbers. One inventory has an entry for 26,5000 handsaws.[156] As discussed above, axes found in fortress armories may have been weapons or tools. If we consider the *balta* as a tool, again we find large numbers in the fortress *cebehane*s. There were also adzes among the carpentry tools listed in the inventories.[157]

Digging tools were also stockpiled in border forts in large number. These tools were used to maintain the earthen portions of the *palanka* wall, and to dig new trenches in case of attack. Fortresses on the frontier also acted as supply caches for potential campaigns by the field army, and so digging tools were stored there for use in sieges. Thousands of picks or mattocks (sing. *kazma*) are listed in inventories.[158] Shovels also were stocked in the thousands.[159] Even larger stores of handles for these tools were recorded.[160] Sacks, usually horsehair or hemp, were used to haul excavated dirt or shore up defenses, and they too were stored in the thousands.[161] Fortress stores also included crowbars, which had many uses both in excavating and other tasks.[162]

Blacksmiths were assigned to garrison duty, and supplies for their work were also stored in the *cebehane*. The most basic smithing equipment supplied were anvils and bellows.[163] Fortresses contained plentiful supplies of materials for the smiths. Raw iron and steel were stocked by the *kantar*.[164] Cast iron pieces, such as rods, poles, strips, or girders, and steel pieces were also listed in the inventories.[165] Tin, a component of bronze, which was used for cannon, was another product purchased for fortresses.[166] Chains of various types were stored in fortresses, and they can best be categorized with the other metalworking supplies.[167]

Other raw materials were purchased and stored in bulk. Pitch and tar could both be used as incendiaries, but they also were used to waterproof walls and ship hulls.[168] Their presence in large quantities at Ada Kale is best explained by their naval uses. Resin was similarly used for waterproofing, and it too appears in the supply records.[169] Wax, for candles and other uses, was another versatile material purchased for the forts.[170] Several types of cloth were recorded as part of the garrison's supplies. Felt was a common purchase, as was hemp cloth.[171] Raw hemp was also stocked, perhaps to be made into ropes, as was raw cotton.[172] Finally, oil for cooking and lubrication was part of the fortress supplies.[173]

In addition to raw hemp for rope-making, finished rope was a basic supply in the *cebehane*s. Rope came in different types and for different uses. The inventory for Ada Kale lists many types for specific shipboard purposes.[174] The other inventories also list rope, often in large sizes.[175] One entry is for 650 ropes of 4 fathoms each.

Finally, there were supplies that might be considered the garrison's household items. Shelter was provided by tents and waxed tarpaulins.[176] Inventories list myriad cooking utensils: cauldrons, tea kettles, frying pans, kettles, and platters.[177] The barracks were supplied with kilims and mattresses.[178] Other household items listed are baskets, pails, paper, torches, and water-skins. The *cebehane* inventories even list items associated with the more ritual aspects of military service, such as drums and

flags.[179] Clearly, these *defter*s do not list all the household supplies in a fortress. The garrison troops certainly had more personal possessions and support goods than are found in the inventories. The supply records do, however, provide a window into the everyday lives of the soldiers living along the border. By considering the supplies—especially the non-military equipment—of a fort, we can begin to think about the border garrison as more than just soldiers fighting the Habsburgs. These men not only fought on the frontier, they lived there too. They cut lumber, dug trenches, cast tools, cooked, and slept. The supply records help us to consider the wide variety of activities of the garrison troops and humanize the men, making them more than just numbers in a payroll record.

This is not, however, to underestimate the value of payroll records as sources. Muster rolls and payroll registers are the primary sources for the following chapters which analyze the types of Ottoman troops serving in frontier garrisons and the size of those garrisons during the seventeenth century.

# 3

# Garrison Troops

Complex and extensive fortification systems are ultimately only as good as the troops who man and defend them. In this chapter I discuss the types of troops found in Ottoman forts on the Habsburg frontier, with emphasis on the garrisons at Kanije and Uyvar. Seventeenth-century Ottoman pay registers (*mevacib defterleri*) and muster rolls (*yoklama defterleri*) now housed in the Başbakanlık Osmanlı Arşivleri (Prime Ministerial Ottoman Archives) in Istanbul provide the bulk of the data for this discussion. A full analysis of this issue requires an examination of a wide range of extant records to gain a complete picture, as few of the payroll records for Ottoman garrisons list all the troops serving in the fort. More often, the records list specific groups of troops. Documents that list Janissary troops usually do not provide information on other kinds of troops, although other *kapıkulu* troops, such as *cebeci* units, may appear in the same *defter*. Similarly, there are special records that list only the *topçu* (gunner) units and the *top arabacı* units charged with transportation of the artillery. Finally, registers that have long entries for what appears to be every kind of soldier ever to serve in a garrison often do not have listings for the Janissaries.

The information found in this chapter draws on a database of garrison manpower and pay compiled from a survey of extant seventeenth-century records for Ottoman garrisons in Hungary. These documents provide varying amounts of detail. Some list each soldier by name, his pay, and, sometimes even, notes about his duties or reassignment. Many, however, only give the total number of men in a unit, their total daily pay, and, often, the total pay for the pay period. To further complicate matters, it is clear that, for a number of years at mid-century, financial officials copied the previous pay period's records instead of actually inspecting the garrison troops. Thus the same names or totals are found in pay documents spanning decades. What this says about bureaucratic practice will be explored more fully in Chapter Five. For the purposes of this chapter and my subsequent discussion of garrison size it will suffice to note that the possibility that some of the documentary evidence is unreliable has informed the conclusions I draw about the composition of Ottoman garrisons.

**Yeniçeri**

The Janissaries, or *yeniçeri* (pl. *yeniçeriyan*), are of course the most well-known of the many types of troops in the Ottoman Empire.[1] These infantry regiments were the core of the standing army, and their influence on the political life of the state was extensive. By the seventeenth century, no Sultan could rule without the support of the *yeniçeri.* In battle, the outcome depended on the performance of the Janissary troops.

Ironically, despite the importance of the *yeniçeriyan* to the Ottoman military, it is more difficult to assess their number in garrisons and their pay than to assess that of other troops. This difficulty arises because payroll and muster information for the Janissaries is usually found in separate documents from those that record the other members of a garrison.

Janissary records list the *yeniçeri*, *sekban*, and in some cases *çavuş*,[2] units in a garrison, but do not list the other types of troops. There are no extant documents for the garrison at Kanije that list all types of troops in the fort including the Janissaries. Only one *defter* from Uyvar lists *yeniçeri* troops together with all the other

troops in the garrison,[3] and that document gives a much smaller number for the Janissary contingent than other documents from the same period.[4]

It is not that documents listing Janissary garrison troops do not exist. There are hundreds of archival records of the *yeniçeri* from the seventeenth century. These *defter*s seem to have been arranged by region, with one record-book listing the Janissary troops for the forts in an entire *vilayet*, or several neighboring *vilayet*s. Thus the records for Kanije and Uyvar can often be found in the same *defter* as those for İstolni Belgrad, Temeşvar, Estergon, and Budin. Some troops temporarily assigned from Istanbul to the frontier may also still be listed in the capital's paybooks. The difficulties arise when one tries to reconcile data from the documents that list only the *yeniçeri* soldiers with those that list all the other garrison troops.

A further difficulty is that the existing *yeniçeri* records tend to provide less specific information about the men in the garrisons than records for other types of troops. Almost all the payroll *defter*s for Kanije and Uyvar list totals for the number of men in Janissary units, and their total daily pay. We do not have the kind of documents that list each man by name with his individual salary. Individual daily pay amounts are listed for unit commanders, but not for the rank and file. Thus it is hard to assess exactly what a Janissary was paid.

An analysis of the available seventeenth-century Janissary pay and muster rolls does, however, lead to some conclusions about the *yeniçeri* troops serving at Kanije and Uyvar. Unlike the other types of troops assigned to garrison duty, the *yeniçeri* units in these forts were not of standard sizes. A *bölük* or *cemaat*, the standard types of units, could be made up of hundreds of soldiers, or as few as one man. There also seemed to be no pattern associating the size of the unit with whether it was designated a *cemaat* or a *bölük*. Often, units called *bölük* were larger than *yeniçeri cemaat*s in the same garrison.[5] It is likely that *cemaat*s were made up of *bölük*s, as was the case with other types of troops, but this structure is not clear from the extant records.

Why do the documents record units made up of as few as one man? It is probable that, even when woefully undermanned, individual units were maintained to ensure that any benefits assigned to the troops, such as bonuses or robes of honor, could be collected. This would be of particular importance to the commander of such a unit, who would be concerned about his own position.

Keeping a unit on the books even when there were only a few soldiers in it would safeguard it's existence. The *cemaat*s of the Janissary corps each had their own emblem that was depicted on their standards.[6] One would assume that, like any other group of soldiers, each also had traditions that added to the unit's sense of cohesiveness and the troopers' camaraderie. These types of symbols and practices give military units an identity that continues beyond the tenure of any single commander or soldier. In any army, once constituted, a unit is difficult to disband, and it is unlikely the Ottoman military was any different in this regard.

Payroll records for the Janissaries in a garrison always list *cemaat*s before *bölük*s. This reflect the hierarchy of units, which was *cemaat*, *bölük*, *ocak*. The commander of the first *cemaat* was the *ağa* of all the *yeniçeri* troops in the garrison. Like other troops, the Janissary *ağa* was assisted by a *kethüda* (second-in-command), an *alemdar* (standard-bearer), *çavuş*es (messengers) and *kâtib*s (scribes). Often a *çavuş* or *kâtib* would command one of the other Janissary units in the garrison. It is interesting to note that *kâtib*s always led *cemaat*s and *çavuş*es always led *bölük*s.[7] In fact, the reverse—a *kâtib* commanding a *bölük* and a *çavuş* a *cemaat*—only occurs twice in all the existing documents for Kanije and Uyvar.[8] Although one can only speculate as to why this division of labor existed, it does shed some light on the internal organization of the Janissary contingents serving in garrisons.

Unit commanders' pay appears to have been based on whether the unit was a *cemaat* or a *bölük*. In seventeenth-century Ottoman garrisons the leader of a Janissary *cemaat* earned 24-27 *akçe* per day, with most earning 24 or 25.[9] The leaders of *bölük*s received between 8 and 15 *akçe* per day, although the most common salaries were 10 and 15 *akçe*. The *ağa* of the contingent was not

paid a significantly higher amount than the commanders of the other *yeniçeri cemaat*s in the garrison. On occasion they earned one more *akçe* per day than other *cemaat* commanders, but usually the pay was the same.[10] Higher pay was also received in situations where the *çavuş* led a *bölük*. His pay was the same as that of the other men leading *bölük*s.[11]

Uzunçarşılı states that the regular Janissary soldier was paid 5 *akçe* a day in the sixteenth century. Furthermore, he states that at the beginning of the seventeenth century they received 8 *akçe*, which increased to 12 *akçe* by the middle of that century.[12] An analysis of the payroll records bears this out in part, but provides more information. As mentioned before, the extant documents do not provide as much specific information on individual pay for Janissaries as they do for other kinds of troops. Thus it is more difficult to determine what the individual soldier was paid.

The documents show a wide range for individual pay in *yeniçeri* units—from 3 to 10 *akçe* a day. Daily wages of 3,[13] 4,[14] 6,[15] 7,[16] 8,[17] and 9[18] *akçe* are specifically listed, and a wider range of pay—between 2 and 12 *akçe*—is implied by calculating pay averages. Calculations done for each Janissary unit, whether *cemaat* or *bölük*, assigned to the garrisons at Kanije and Uyvar produce pay averages between 4.5 and 8.5 *akçe* a day for the individual units. Taking all the extant pay records for *yeniçeri* in these forts during the seventeenth century into account, one arrives at an average wage of 6.81 *akçe* for Janissaries at Kanije and 5.83 *akçe* for those at Uyvar.[19] These averages cannot be assumed to apply to all the members of the Janissary corps throughout the Ottoman empire, but they are useful for comparisons of wages among troops within a garrison, or are perhaps applicable to other frontier garrisons.

Furthermore, daily wages were not the Janissaries' only remuneration. It is probable that *yeniçeri* troops participated in the lucrative raiding that was endemic along the frontier, and *ağa*s may have had some *timar* income as well. The *mevacib defter*s for Kanije also show that the Janissary troops were paid bonuses several times.[20] The only other troops listed with bonus pay are *sekban* units serving at Kanije, whose pay records were kept with

those of the *yeniçeri*. The *sekban* troops were paid bonuses at the same time as the Janissary troops, but the Janissaries received bonuses on more occasions than the *sekban* soldiers.

In all cases, the bonuses were payments of 30 *akçe* per man. The documents record six instances of bonus payments to Janissary troops. In five cases, the bonus was included with the pay for the final quarter of the year.[21] This happened in 1011 A.H./1602-03 C.E., 1019 A.H./1610-11 C.E., 1028 A.H./1618-19 C.E., 1032 A.H./1622-23 C.E., and 1033 A.H./1623-24 C.E.[22] In the remaining case, the bonus was listed with pay records for the pay periods *masar*, *recec*, and *reşen* of 1020 A.H./1611-12 C.E.[23] The impetus for these bonus payments is not always clear, but the disbursements for 1011, 1028, and 1032 A.H. all came shortly after the accessions of the Sultans Mehmed III, Osman II, and Murad IV, respectively. The installation of a new ruler in Istanbul was often accompanied by payments to the Janissary corps, in exchange for their support. It is possible that the bonuses given to the garrison *yeniçeri* at Kanije were part of the gift to the larger corps.

When assessing the number of *yeniçeri* in the garrisons, the scribal practice of identifying specific Janissary *cemaat*s and *bölük*s by number makes it possible to track which units were assigned to which forts, as well as to trace personnel changes within the units. Thus, one not only can determine how large the Janissary contingents in the Kanije and Uyvar garrisons were, but also can gain insight into the service histories of the units and their commanders.

Immediately after the 1663 conquest of Uyvar, records show a very large number of Janissaries assigned to the new garrison. This increase was the logical result of a successful siege. The besieging Ottoman army was a large one, and many of its men were moved into the garrison to establish and maintain control of the newly acquired fortress. The earliest record that remains for this garrison, dated 1074 A.H./1663-64 C.E., shows 1,442 Janissaries in three *cemaat*s and four *bölük*s.[24] Later that same year the *yeniçeri* contingent was slightly reduced to 1,434 soldiers.[25] The size of the contingent continued to decline over subsequent

years. This reduction was gradual for the most part, with only a handful fewer men listed in succeeding pay periods. There were, however, several occasions where the reductions were more substantial. Between 1075-1076 A.H./1664-1666 C.E. the number of Janissaries in the fort dropped by 152 men.[26] During 1079 A.H./1668-69 C.E. the garrison *yeniçeri* force was reduced by 204 men.[27] Finally, in 1086 A.H./1675-76 C.E. there was a decrease of 90 soldiers.[28] These men were most likely needed in the army fighting on the Polish front at that time.

The following year, 1087 A.H/1676-77 C.E., saw one of the smallest recorded Janissary groups serving at Uyvar: 638 men.[29] It was during that year, however, that more *yeniçeri* were assigned to the fort—a trend that would, for the most part, continue throughout the period for which records are extant. There were 893 Janissaries assigned to the garrison in the pay periods *reşen* and *lezez* of 1087.[30]

Over the next five years the Janissary contingent in the garrison widely varied in size. Documents show that at the end of 1088 A.H./1677-78 C.E. there were 917 Janissary soldiers at Uyvar.[31] In the beginning of 1089 A.H./1678-79 C.E. that number had dropped to 811 men, and dropped even further, to 635 soldiers, by *reşen* of 1090 A.H./1679-80 C.E.[32] These reductions in forces may be due to a need for soldiers in the army then active in the Ukraine. Two years later, in 1092 A.H./1681-82 C.E., the garrison had many more Janissaries, but there are conflicting reports as to how many more. One document that lists the pay for the entire year gives the largest recorded number of Janissaries: 2,251 men.[33] A second *defter*, which gives information for *reşen* and *lezez* of the same year, also shows a dramatic increase, but lists fewer men: 1093.[34] It is not clear which record is more accurate, they may both be, each recording the conditions at the fortress at different times in the year. In either case, it is safe to say that there was a substantial build-up of Janissary forces at Uyvar. This increase in manpower is clearly related to Ottoman preparations for the campaigns against the Habsburgs the following year. Finally, the *defter* for 1096 A.H./1684-85 C.E., the last year for which records are extant, lists 2,228 *yeniçeri* troops in

the garrison.[35] Again, the garrison size can be connected to the war with the Habsburgs and their allies that closed the century. Uyvar was one of the Ottoman forward positions and a key to defense efforts.

Although the number of *yeniçeri* troops at Uyvar changed quite a bit during the seventeenth century, the specific Janissary units which served in the garrison did not. For most of the period of Ottoman control, the garrison usually included four *yeniçeri cemaat*s and four or five *bölük*s. This arrangement of forces was true no matter how many total Janissary troops were in the garrison. Only during the large force increases in the later part of the century were there more units assigned to Uyvar. In 1092 A.H./1681-82 C.E. and 1096 A.H./1684-85 C.E. the Janissary contingents were organized into twelve *cemaat*s and seven *bölük*s.[36]

In analyzing the available documents, one finds that the same units were assigned to the fort year after year, despite the usual three-year rotation of Janissary postings. *Cemaat*s 31 and 44 and *bölük*s 39 and 58 of the Janissary corps were stationed at Uyvar in all the years for which records remain, from 1074-96 A.H./1663-85 C.E. A number of other units also served for long periods. *Cemaat* 67 was assigned to the garrison for 14 years and *cemaat* 29 for 20 years. Other units, such as *bölük* 55, served in the garrison for several years, were assigned elsewhere, and then returned to Uyvar.

Records also show some consistency in the leadership of Janissary units in Uyvar's garrison. *Cemaat* 44 was commanded by one Mehmed Abdullah for 8 years, 1074-1082 A.H./1663-1672 C.E. *Bölük* 58's commander for 10 years, 1076-1086 A.H./1665-1676 C.E., was Mustafa ibn Mehmed. Other units underwent frequent leadership changes. *Cemaat* 67 had at least 8 different *ağa*s during the 14 years it was part of the Uyvar garrison. Although the records do allow us to track individual commanders to some extent, the frequency of the names Mehmed and Mustafa make it difficult to be sure if the officer is the same man or not.

As at Uyvar, a large number of *yeniçeri* were assigned to Kanije's garrison after its initial conquest by the Ottomans in 1600 C.E. Unlike Uyvar, however, the Janissary component of

the Kanije garrison grew and shrank repeatedly during the period of Ottoman rule there. The earliest payroll document remaining for Kanije provides information for *lezez* 1011 A.H./1602-03 C.E. when 1837 Janissaries were serving in the fort.[37] This number was, in fact, the largest Janissary contingent assigned to the garrison during the entire 87 years the fortress was held by the Ottomans. The number of *yeniçeri* troops decreased substantially over the next several years. There were 1781 men in 1012 A.H./1603-04 C.E.; 1597 in 1013 A.H./1604-05 C.E.; and 1313 in 1014 A.H./1605-06 C.E.[38] The year 1017 A.H./1608-09 C.E. witnessed a major reduction in forces. At the beginning of the year the Janissary component of the garrison had dropped to 730 men. By the last quarter of that year, *yeniçeri* troop strength was down to 479 soldiers.[39]

Over the next five years there was a continued, gradual reduction in the number of Janissaries at Kanije. These troops were probably needed along the eastern frontier where the Ottomans were engaged with the Safavids. The documentary evidence shows that ten or twenty fewer *yeniçeri* troops served in the garrison with each succeeding quarter. By the end of 1022 A.H./1613-14 C.E. there were only 254 Janissaries in the garrison.[40] The next year, 1023 A.H./1614-15 C.E., saw a temporary increase in *yeniçeri* troop strength during the first three quarters of the year, up to 388 men, but records from *lezez* of the same year show the contingent was reduced again to 308 troops.[41] Two years later, 1025 A.H./1616-17 C.E., the number of Janissaries at Kanije was half that amount, down to 155 men.[42] The size of the *yeniçeri* contingent remained near that level for several years, until a large increase to 302 men at the beginning of 1028 A.H./1618-19 C.E.[43] Later that same year, however, the Janissaries were reduced to 282 and then 219 men in the third and fourth quarters respectively.[44]

The Janissary contingent again was gradually reduced over the subsequent years, but stabilized at 160-170 men until 1038 A.H./1628-29 C.E., when more *yeniçeri* were assigned to the fort, bringing the total number of Janissary troops to 320.[45] This increase was only temporary, and the garrison was reduced to 284

soldiers by the end of that year. During the following five years the number of Janissaries waxed and waned with each quarter. Anywhere from 80 to 140 men could be assigned to, or moved from, the garrison at Kanije from one pay period to the next. Again, this was a period of conflict with the Safavids to the East, so that Janissary troops may have been reassigned to the field.

The Janissary contingent dropped from 206 men in 1044 A.H./1634-35 C.E. to 117 in 1045 A.H./1635-36 C.E.[46] and remained near that level for the next seven years. In 1053 A.H./1643-44 C.E. there was a substantial reduction from 103 to 70 troops.[47] Again, *yeniçeri* staffing of the garrison stabilized for a long period, with between 64 and 80 Janissaries in the fort. This troop level was maintained for the next 14 years. This is the same period as the Ottoman campaigns in Crete, which would have occupied the majority of the Janissary corps. During this period the smallest recorded number of Janissaries—64 men—appears in the payroll documents on three occasions.[48]

In *leẕeẕ* 1067 A.H./1656-57 C.E., 58 more Janissaries were assigned to serve at Kanije bringing the contingent up to 141 men, which was the largest increase in over twenty years.[49] Over the next three years *yeniçeri* troop strength again varied from quarter to quarter, but on average there were around 165 soldier in the garrison.

As the Ottomans prepared for their campaigns against the Habsburgs the garrison was enhanced considerably. In 1093 A.H./1682 C.E. the garrison had 525 Janissaries.[50] More *yeniçeri* were assigned to Kanije in the next two years, and troops levels rose to 768 Janissaries in the first half of 1097 A.H./1685-86 C.E.[51] Military needs elsewhere along the Habsburg frontier, however, led to the garrison being reduced to 575 Janissaries later that year.[52] These same manpower pressures led to the number of *yeniçeri* at Kanije dropping to 490 men the following year, 1098 A.H./1686-87 C.E., which is the last year for which payroll records exist.[53]

Again unlike the garrison at Uyvar, there was much less continuity in which Janissary units served in Kanije's garrison. Whereas the number of Uyvar's Janissary units stayed relatively

stable, even when the number of men varied, there was a great deal of change in the number of units at Kanije. This may be a reflection of the difference in the length of Ottoman control of the two forts, but there are still major differences even when considering comparably short spans of time. In the early years of Ottoman occupation, when there were many Janissaries in the fort, there were many individual units. In 1011 A.H./1602-03 C.E., after the conquest of the fort, the garrison had 1,837 Janissaries in 21 *cemaat*s and 9 *bölük*s.[54] Similar numbers of units were found in the fort in the following three years. Even when the number of Janissaries was much lower there could be a large number of units in the contingent. In 1023 A.H./1614-15 C.E., the garrison had only 388 *yeniçeri*, but they served in 35 distinct units—some containing only one or two soldiers.[55] As has been shown, there were benefits to keeping under-staffed units on the pay-books.

What is more interesting than periods when there were many Janissary units in the garrison are the periods when there were very few. At two points Kanije had only one unit of Janissaries in the garrison. The first period was 1045-60 A.H./1635-50 C.E. During this time *cemaat* 48 was the sole *yeniçeri* unit for the first seven years and *cemaat* 81 served for the remainder. This period was not the only time *cemaat* 81 was assigned to Kanije. The unit is listed in pay records for 1011-17 A.H./1602-09 C.E. and 1020-22 A.H./1611-14 C.E., but at those times there were other Janissary units serving alongside them.

The longest period for which there was only one Janissary unit in the fort was almost thirty years 1061-90 A.H./1650-80 C.E., when *cemaat* 96 was assigned to the garrison. *Cemaat* 96 was, in fact, a unit often assigned to Kanije. Besides the twenty-nine years that it was the sole *yeniçeri* presence, the unit served at Kanije for two other periods: 1011-13 A.H./1602-05 C.E., and 1022-27 A.H./1613-18 C.E. This unit was not large. During the twenty-nine-years that *cemaat* 96 was the only Janissary unit in Kanije, the unit varied in size, never holding more than 200 men, and often as few as 70 soldiers. This does not necessarily mean, however, that the garrison as a whole was small. Records for

this period show substantial numbers of non-Janissary troops in Kanije.

Clearly, *cemaat* 96's twenty-nine year tenure at Kanije is unusual. An analysis of the extant documents shows that units normally were assigned to the garrison for shorter periods. Although some units were listed for only one year, on average the *yeniçeri* units at Kanije served there for five years at a time. As at Uyvar, some units spent a few years at Kanije, then were reassigned to other duty, and ultimately returned to the fort. Examples of this are *bölük* 26, which served at Kanije for five years in the 1020s A.H./1610s C.E., and then returned for a two-year assignment a decade later, and *cemaat* 18, which served during two five-year periods separated by fifty years.

It is possible to speculate on the thought behind these kinds of transfers to and from the garrison. A possible rationale is particularly evident for two units, *cemaat* 24 and *cemaat* 99, which appear in the payroll records for the beginning and end of the period of Ottoman rule in Kanije. These units may have been particularly skilled, or normally part of the field army, which could explain why they were assigned to the fort in the years just after its capture by the Ottomans at the beginning of the seventeenth century and again when the fort came under pressure from the armies of the Holy League at century's end.

Finally, it is also possible to track the assignment of commanders to some units in Kanije's garrison. This is most easily done for those units which were part of the garrison for longer periods. During the eleven years that *cemaat* 48 served in the fort it had four different commanders. One, Süleyman Ağa, led these troops for six years, and the others for terms of a year or two.[56] Six years seems to be the longest tenure of a unit commander at Kanije. During the twenty-nine years that *cemaat* 96 served there, most of its leaders served for two or three years. Only two men served longer: Mustafa Ali officered the unit for five years, from 1061-66 A.H./1650-56 C.E., when he was replaced by Abdürrahman Ahmed, who led the troops until the last quarter of 1071 A.H./1660-61 C.E.[57]

**Azeb**

The term *azeb* (or *azab*, as it appears in some secondary sources; pl. *azeban*) derives from the Arabic for "bachelor" and was used to refer to soldiers who fulfilled various roles in the Ottoman military. As early as the thirteenth century, sources report soldiers called *azeb* serving as marine troops in the *beylik* of Aydin.[58] These soldiers have been described as being "identical in origin, motivation, and organization to the frontier-ghazis."[59] Similar kinds of troops were later found in the Ottoman navy and were called *azeb*. A 1474 register from the Ottoman naval base at Gallipoli lists four *azeb* units serving on a variety of ships, from galleys to horse transports.[60] This term, however, was also used for infantry troops and one must differentiate between the infantry *azeb*s, often called *yaya azeb*, and the naval variety, called both *bahriye* (navy) *azeb* and *deniz* (sea) *azeb*.[61] By the fourteenth century the infantry *azeb*s assigned to garrison duty were considered a separate group called *kale* (fortress) *azeb*s.[62] In the seventeenth century, these *azeb*s played a major role in fortress garrisons, and were listed by Marsigli as one of the five infantry divisions of the Ottoman frontier forces.[63] The dividing lines between these different types of *azeb* were not always clear, as some troops assigned to forts in Hungary also manned boats on the Danube and served under a *kapudan*.[64]

*Azeb*s were found in the Ottoman army from the earliest times. Some sources say that they predate the organization of the Janissaries.[65] They were recruited in large numbers in Anatolia and, later, Rumelia. 30,000 *azeb*s reportedly fought against Uzun Hasan at Otluk Beli in 1472 and 20,000 were in the army sent against Rhodes by Kanuni Süleyman.[66] The *azeb* served as light infantry, armed with bows, swords, and sometimes pikes, and wore a red *börk*, a felt hat of the same style worn by the Janissaries, but a different color.[67] In battle the *azeb* acted as archers and took their place in the front line, before the cannon and the Janissaries.[68]

The procedure for recruiting *azeb* troops is preserved in the *kanunname*, or law code, of Sultan Süleyman.[69] Troops were raised in each *sancak* at the local level, under the supervision of

the *kadı*. One man was levied from every twenty to thirty households (*hane*). It is not clear if these groupings were the same as those used in collecting the taxes that were assessed by *hane*. In the fifteenth and sixteenth centuries, these local groups were responsible for supporting the soldiers sent from their area.[70] To support each *azeb* 300 *akçe* had to be collected from the assigned households. In time of war, this money took the place of the extraordinary taxes called *avarız*.[71] The local community also had to provide someone to act as guarantor for each *azeb*. If the soldier deserted the army the guarantor was responsible for his expenses. The *azeb* had to be an unmarried man, in good health, strong, and brave in battle. He could have no sons or other dependents, such as elderly or sick people. The soldiers' names were entered in two *yoklama defter*s (muster rolls), one of which was kept by the *kadı*, the other forwarded to the central administration. The *ağa* could fill a vacancy in an established garrison *azeb* unit by appointing a worthy young man to the post. This man's name would be entered in the garrison's *defter*.[72]

The organization of the *kale azeb*s in garrisons was similar to that of the Janissaries. Their units were called *cemaat*s, and each *cemaat* contained a number of smaller units called *bölük* or *oda*. The *cemaat* was commanded by an *ağa* who had a *kethüda* (second in command) and a *kâtib* (scribe) to assist him. The *cemaat* also had a standard-bearer called *bayraktar* or *alemdar*. The standard this man carried was a lance topped by a horse-tail over a gilded copper ball.[73] This is obviously a *tuğ* standard like that of the Janissary troops and shows another way in which the organization of the *azeb*s was similar.

The leaders of the smaller sub-units were called variously *bölük başı*, *oda başı*, and in some documents, perhaps in keeping with the naval origin of the *azeb*s, *reis*.[74] The *reis* seems to have been superior to the *oda başı*, as legal records mandate a higher salary for him.[75] Secondary sources give different amounts for the number of *azeb*s in an *oda*, from 7 to 18,[76] but payroll documents from the seventeenth century list larger numbers. These sources show that an *oda* could have anywhere from 20 to 30 men.[77] The *oda* commanders were responsible for ensuring their troops were

trained. They were instructed to have the men who knew how to use firearms train their comrades who did not.[78]

Pay for the *kale azeb*s came from the Imperial Treasury. According to seventeenth century payroll records from Hungarian forts,[79] the regular soldiers received on average 8 *akçe* a day. The officers were paid more, with the *ağa* of a *cemaat* getting anywhere from 25 to 45 *akçe* a day. In some documents the *ağa* is also listed as having *timar* income.[80] A *kethüda* received 20-25 and an *alemdar* 10-15 *akçe* daily. To compare these figures with those of an earlier period, the 1524 *kanunname* of Egypt, which regulated the garrison there in the early sixteenth century, allocates 8 *akçe* a day to a *reis*, 6 *akçe* to an *oda başı*, and 5 *akçe* to the regular *azeb*s.[81] Römer gives the following pay rates for the late sixteenth century: *ağa* 10-25 *akçe*, *kethüda* 8-15 *akçe*, and most regular troopers 5 or 6 *akçe*.[82] Caroline Finkel cites documents from the same period listing daily pay of around 7 *akçe*.[83] By the seventeenth century an *azeb*'s position and, most importantly, his place in the garrison pay and muster rolls, called *gedik*, could be inherited by his son.[84] This shows that although the *azeb* units were originally established to contain single men, in time these men could marry and retain their place in the garrison.

*Azeban* often made up the largest single contingent in a fort. In smaller forts and *palanka*s the entire garrison often was *azeb* troops.[85] Records for the period immediately following the Ottoman conquest of Budin show *azeban* to be the most numerous units in the garrisons of the newly acquired territories.[86] *Azeban* were also the largest component of the garrison at Kanije through the seventeenth century. Payroll records show at least 12 and usually 15 *cemaat*s of *azeb*s assigned to the fortress between 1621 and 1658, totaling between 660 and 850 men.[87] Close to half of the garrison in these years were *azeb* troops.[88] There was a great deal of consistency in the *azeb* units at Kanije, with the same *ağa*s and their commands assigned to the garrison throughout the 1650s.[89]

Uyvar had a smaller garrison, with fewer *azeb* units. Extant records for the period of Ottoman control of the fort list only two *cemaat*s totaling between 120 and 200 troops.[90] These units

were less significant proportionally as well. *Azeb* troops numbered about the same as the *müstahfiz*, *faris*, and *gönüllü* units in the fortress.[91] While not as large a group as at Kanije, the *azeban* of Uyvar were still an important part of the garrison.

**Faris**

The *farisan* (sing. *faris*, from Arabic) were salaried cavalry troops and were considered provincial troops, like the *azeban*.[92] These troops were neither part of the *kapıkulu* cavalry units nor were they *timar*-holding *sipahi* cavalry. Several other terms were used to refer to mounted troops in garrisons, including *atlı ulufeli*, mounted salaried, *ulufeciyan-i süvari*, salaried riders, and *beşlu*, or "fiver," which alluded to their earning five *akçe* per day.[93] This latter term continued in use even after the troopers' salary increased.[94] By the seventeenth century the term *faris* is the one most frequently used in documents.[95]

Although cavalry troops may seem out of place among the defenders of a fort, they played an important role in a garrison. During sieges, cavalry forces would sally out of the fortress and attempt to disrupt the efforts of the besieging army. They also contributed to the role of a fort as a base for operations. The garrison's cavalry troops were used to harass passing enemy formations, making the reduction of a fort a necessary step for the safe movement of armies. Furthermore, cavalry troops were the soldiers most often used in cross-border raids for booty, or to attack opposing forts.

*Faris* troops were organized in *cemaat*s, with subdivisions called either *oda* or *bölük*.[96] Each *cemaat* was commanded by an *ağa*, with a *kethüda* and an *alemdar*. Units often had a *kâtib* or *çavuş* as well.[97] Leaders of the smaller units were called *ser oda* or *bölük başı*,[98] and in one case are listed as *ser-i cemaat*.[99] The *farisan* were well paid, a reflection of both their specialized cavalry skills and the costs of maintaining their mounts and equipment. Seventeenth century records show the *ağa*s earning anywhere between 25 and 60 *akçe* per day, with the majority getting around 40 *akçe*.[100] In some cases *ağa*s of *farisan* units also received *timar* income.[101] For most of the century records state that the subordinate officers earned

between 15 and 17 *akçe* a day and regular troops an average of 13 *akçe*.[102] Several documents from the end of the century show a slight increase, with *kethüda*s and *alemdar*s getting 22 *akçe* and troopers an average of 17 *akçe* per day.[103]

The number of *farisan* assigned to garrisons varied quite a bit. Römer lists contingents as small as 30 and as large as 500 serving in garrisons in Hungary during the late sixteenth century.[104] This wide variety continued through the seventeenth century. In smaller forts and *palanka*s there could be as few as 10 *farisan*, or none at all.[105] In other forts these cavalry troops were one of the largest components of the garrison. Detailed records for Uyvar's garrison only exist for the 1660s and 1670s. At the end of 1075 A.H./1664-65 C.E., a year in which the garrison was strengthened, there were 100 *farisan* among the 810 men in the fort.[106] By 1086 A.H./1675-76 C.E., the garrison had grown to 1,833 men, with 259 *farisan*.[107]

A highly detailed series of payroll documents for the garrison at Kanije show an unusually large contingent of *farisan* assigned to that fort. These documents date between 1025-1068 A.H./1616-1658 C.E. and give in-depth information on all the garrison troops, other than Janissaries.[108] Other records provide details on the Janissary units at the fort.[109] During this period *farisan* units were the largest or second-largest groups in the garrison, surpassed only by *azeb* units. Over a third of the garrison were *farisan*, with between 295 and 625 men at any given time. As with the *azeb* troops, there was a great deal of consistency in the officer corps of the *farisan* during the 1650s. Many of the same *ağa*s are listed commanding the same units through the years. Some of the *kethüda*s and *alemdar*s are also listed with their units.

**Topçu and Top Arabacı**

The *topçu* (pl. *topçular*, or *topçuyan*), or "gunner," was responsible for the production and use of artillery. Gunpowder weapons had been a key part of Ottoman military strength at least from the time of Mehmed I, and were vital in the siege warfare of the seventeenth century.[110] The *topçular* were *kapıkulu* troops, and their corps was organized as early as the fifteenth century.[111]

Soldiers in this unit specialized in all aspects of artillery, from founding cannon to milling gunpowder to firing the weapons in combat. Their main center was the arsenal in Istanbul, called the *Tophane*, but there were cannon foundries and powder mills (*baruthane*) at other locations throughout the Empire. The powder mill at Budin was the primary supplier for the forts on the Hungarian frontier.[112]

Given the importance of cannon in both attacking and defending fortifications, *topçu* units were important parts of Ottoman garrisons. Those troops assigned to border fortresses were subject to periodic testing to be sure their gunnery skills were sharp.[113]

*Topçu* troops in seventeenth-century garrisons came under the general supervision of the fortress warden, or *dizdar*.[114] They usually served in one *cemaat* divided into several *bölük*s. The units varied in total size, with a *bölük* having between 5 and 10 men, together with a *ser bölük* to command it.[115] The *cemaat* was led by an *ağa*, sometimes called *topçubaşı*, with a *kethüda* to assist him. Frequently an *alemdar*, *kâtib*, and *çavuş* were part of the unit.[116] Although some seventeenth century documents show *ağa*s only receiving 10 *akçe* per day,[117] most records report salaries of 20-30 *akçe*. *Kethüda*s earned 15-17 *akçe* and *ser bölüks* 13 *akçe* per day. In the units with an *alemdar* or *çavuş*, those officers earned 14-15 *akçe*.[118]

As with other types of *kapıkulu* troops, the *ağa* of the *topçu* troops in a fort often was granted *timar* income.[119] What is unusual is that some documents from the sixteenth and seventeenth centuries show that other *topçuyan* also received *timar*s.[120] Land surveys record all the artillerymen serving in forts and palankas in the *liva* of Lipva in Hungary were assigned *timar* income. The *ağa* had the largest allotment, but *serbölük*s and the rank and file *topçular* also received grants. The only other type of garrison troops that receive *timar*s on such a scale are the *müstahfızan*. This allotment of income to the *topçu* may reflect their importance in fortress garrisons.

As with all troops, the number of *topçu* in a garrison varied with military activity in the area of the fort. During the Long

War with the Habsburgs at the turn of the seventeenth century, Kanije had 20-25 *topçuyan* assigned to service its guns.[121] The number of *topçu* troops decreased after the end of hostilities, but soon began to increase again, so that by mid-century there were 40-50 gunners in the garrison.[122] The unit grew to its largest recorded size in 1683, the year of the second siege of Vienna, when there were 70 *topçu* at the fort.[123]

The situation was the same at Uyvar. After the capture of the fortress in 1663, there were only 6 *topçuyan* assigned to its defense.[124] Within two years the artillery detachment of the fort had grown to 60 men, and continued to grow in the following years to as many as 75 men.[125] Military assignments related to the campaigns in 1683 also led to a larger contingent of *topçu* troops at Uyvar. At the time of the ill-fated siege, there were 135 *topçuyan* serving at the fort.[126]

Related to the *topçu* units were the *top arabacı*, or "gun carter." These men were responsible for the transportation of artillery, usually with the field army. They built and maintained the wagons and gun-carriages on which guns were carried, and tended to the draft animals that pulled the carts.[127] Beasts of burden, including camels, were also used to carry smaller guns.[128]

Like the *topçular*, *top arabacılar* were *kapıkulu* troops, and the payroll records for the two groups were usually kept together, separate from that of other units.[129] These defters usually are much more abbreviated than other payroll records. Where other documents often list names of soldiers, the *topçu* and *top arabacılar* records usually only list totals for the number of men and daily pay for each *cemaat*. As is shown above, *topçu* units are quite common in garrison muster rolls, but *top arabacı* units are rarely found. This absence is not surprising, as their job was to transport the guns—a task more suited to service with the field army than to fortresses.

**Cebeci and Anbarcı**

Two kinds of troops listed in garrison rolls saw to the stores of the fortresses. The first group was the *cebeci* (pl. *cebeciyan*) troops, or armorers, who saw to the arms and other military equipment

of the fort.[130] The *cebeciyan* were *kapıkulu*, like the Janissaries, but their garrison payroll records were not included with those of the *yeniçeri*. They instead appear with those of the other garrison troops. The *cebeciyan* were responsible for the manufacture and repair of weapons and armor, as well as stockpiling and storing them in peacetime. These supplies included everything from arrows to helmets to firearms, as well as control over the gunpowder supplies in fortresses. *Cebeci* units did not only serve in garrisons, but were also needed in the field to maintain weapons and armor. Uzunçarşılı states that units of miners (*lağımcı*) and bombardiers (*humbaracı*) were part of the *cebeci* organization.[131]

The *cebeci* in the Ottoman Hungarian garrisons were, like other troops, in *cemaat* units, subdivided into *bölük*s.[132] The *cebeci* payroll records all list an *ağa* as commander, with a *kethüda* to assist him, and often list the *bölük* commanders, or *ser bölüks*. Some particularly detailed records show other officers in *cebeci* units, such as a *kâtib*, *çavuş* (messenger) or *alemdar*.[133] Daily pay for the troops varied, even within the same *cemaat* or garrison.[134] During the seventeenth century the *ağa*'s pay was anywhere between 22 and 34 *akçe* per day and the *kethüda*'s could range between 10 and 25 *akçe* daily. Most of the rank and file earned closer to 9 *akçe* per day.[135] There is evidence that in the seventeenth century *timar* income was assigned to *cebeci ağa*s, and possibly to other *cebeci* troops serving in forts in Hungary.[136]

Uzunçarşılı cites a document assigning 130 men to Uyvar in 1663, allotting them 3 *akçe* per day as pay, and enrolling them as *cebeciyan*.[137] Payroll records from the following year, however, show a much smaller contingent of *cebeci* troops at Uyvar—between 14 and 30 men—getting paid more.[138] The dramatic difference in numbers may be related to the activities of the field army then fighting Habsburg troops, and possible reassignment of troops, but the disparity in reported pay is not as easy to explain. It is probable that differences in pay for this group and others are related to tenure, with veteran troops earning more money. The troops referred to by Uzunçarşılı were new levies

who were ultimately assigned to the *cebeci* corps, hence their low pay.

According to an order issued in 1018 A.H./1609-10 C.E., *cebeci* units, like the Janissaries, were to serve only three years in a fortress garrison before being rotated back to Istanbul.[139] This schedule was probably an ideal that did not always come to pass. Records from Kanije from the 1650s show the same *cebeci* commanders and their troops assigned to the fort for five years.[140]

The *cebeci* contingents were usually small, compared to the overall size of the garrison. Most often there were one or two *cemaat* of around ten men, plus officers.[141] Military activity in the area could lead to the strengthening of the garrison, including an increase in the number of *cebeciyan*. Much larger contingents of *cebeci* were assigned to Kanije after its initial conquest and famous defense by Tiryaki Hasan Pasha in the early years of the seventeenth century[142] than later in the century, as the border moved west. Similarly, Uyvar's garrison had many more *cebeciyan* as it became the focus of military operations.[143]

The other stores of the garrisons, those other than war materiel, were overseen by the *anbarcı* (pl. *anbarcıyan*), or storekeeper, units. These stores included foodstuffs, building materials, and other supplies necessary for the garrison. *Anbarcı* units were small, and were not always listed in garrison payroll records. Although no extant seventeenth-century payroll records for Uyvar list *anbarcıyan*, other documents refer to the storehouse there,[144] and one would assume it was appropriately staffed.

*Mevacıb defterleri* for Kanije from the first half of the century, however, do provide information on *anbarcı* units stationed there. According to these records the garrison usually had only one *cemaat* of around seven *anbarcıyan*, including an *ağa* and *kethüda*.[145] The pay for the regular troops was similar to that of the *cebeci*, with most men earning an average of nine *akçe* per day. The officers received less than their counterparts in the armorer corps. The *ağa* earned only 15 and the *kethüda* only 13 *akçe*.[146]

**Çavuş**

The word *çavuş* (pl. *çavuşan*) means "messenger" and was used for two different types of soldiers in garrisons. In both cases these men acted as messengers, but one type of *çavuş* had ties to the highest levels of the government, whereas the other was a low-level officer.

The more significant type are usually listed as "*cavuş-ı divan*," "*çavuşan-i divani*," or "*cavuşan-i degâh-i âlî*" and served in distinctive units. Although found in frontier garrisons, these men were part of the larger group of *çavuş*es that served in the Sultan's court. The term itself has antecedents among the Uygur, where it was used to refer to an ambassador. It was then used by the Seljuks to refer to Byzantine imperial messengers, and passed into Persian and Arabic, where it was used for a variety of court attendants.[147]

In Ottoman practice the *çavuş* was part of the Sultan's court retinue. The *divani çavuş*es served under an official called the *çavuşbaşı*, who acted as a deputy to the Grand Vizier.[148] It was *çavuşbaşı*'s duty to accompany ambassadors when they came before the Sultan.[149] Other *çavuş*es acted as escorts to viziers visiting the *divan*, and a troop of them preceded the Sultan when he left the palace.[150] Most generally they were used as envoys to deliver and carry out the orders of the Sultan and Grand Vizier. The *çavuş*es of the *divan* were either paid salaries or given *timar*s, and their sons were also eligible to receive *timar*s.[151]

In the seventeenth century the total number of *divani çavuş*es was 630 men.[152] This included 330 *çavuş*es in the Janissary corps.[153] These men served under a *baş çavuş* and were chosen from soldiers of long service. In peacetime they acted as messengers; and as aides to commanders on campaign.[154] They also had the duty of carrying out punishments given to *yeniçeri* officers. As trusted men, *çavuş*es also were placed in command of some Janissary units. Pay and muster rolls often show a *çavuş* as the leader of a *bölük* or even a *cemaat*, and in some cases these units are singled out and listed as "*cemaat-i çavuş*."[155]

The number of *divani çavuş*es assigned to frontier garrisons was generally quite small. At Kanije and Uyvar there was usually a

single unit present, called either a *cemaat* or *bölük*.[156] For most of the seventeenth century there were only three or four men in either garrison. Other forts had equally small groups of *çavuş*es. As with the rest of the garrison, however, military action could increase that number. In 1664, after the battle of St. Gotthard, the number of *çavuş*es assigned to Uyvar rose to fourteen.[157] This period of heightened manpower is also the only time an *ağa* is listed as being in command of a *çavuş* unit.[158] Otherwise the *çavuş*es were led by a *kethüda*.[159] The *kethüda* earned 30 *akçe* per day.[160] Pay for the other men in the unit varied between 8 and 20 akçe, with higher salaries more common in the second half of the century.[161]

The secondary use of the term *çavuş* is as the rank of a low-level officer, roughly equivalent to an *alemdar*, in a *cemaat* or *bölük*. This use of the term was quite prevalent, with men called *çavuş* found in units of most types of soldiers serving in a garrison. Seventeenth-century documents show *azeb*, *faris*, and *cebeci* units with a *çavuş* listed among their officers.[162] Some units had more than one *çavuş*.[163] It is possible that this use of the term *çavuş* for a junior officer derived from the position of *çavuş*es in Janissary units. As has been noted, the *yeniçeri çavuş* was often in command of a *bölük*, and was in charge of discipline in the *cemaat*. Like the *yeniçeri çavuş*es, those in other units also handled discipline among the troops. The similarity of function may have led to the use of the same title. *Çavuş*es earned a few *akçe* more per day than the regular soldiers in their units, but often were paid less than the other junior officers, such as the *serbölük* or *alemdar*. We can conclude then that the *çavuş* was the most junior officer in a unit.

**Kâtib**

A *kâtib* (pl. *kâtiban*) was a scribe and, like the term *çavuş*, this term was used for two types of men that served in garrisons. The more unusual type was the *kâtib-i divan*, who was a representative of the imperial bureaucracy. These men were responsible for compiling records for the central administration, such as land surveys. They appear in garrison documents organized in their own *cemaat*s.

The other use of the term *kâtib* is for a scribe serving in a military unit as its clerk. Units of various types—*müstahfız*, *yeniçeri*, *faris*, *azeb*—all list *kâtib*s in their units. These men were responsible for keeping the records for the unit, especially pay and muster records. These *kâtib*s were listed in documents along with the other officers of the unit. Although all were paid more than regular soldiers of their units, there was no fixed relationship between their pay and that of the other junior officers, such as the *serbölük*, *alemdar*, or *çavuş*.[164] Sometimes the *kâtib* earned less than the others, sometimes more. In Janissary units the *kâtib* sometimes took on responsibilities beyond their job as company clerk. Payroll records often list a *cemaat-i kâtib* within garrison *yeniçeri* contingents and show the *kâtib* as the commander.[165]

Extant seventeenth-century payroll records show distinct units of *kâtiban-i divan* serving at Uyvar, but not at Kanije.[166] Uyvar may have merited a distinct *kâtib* unit as it was a newly-conquered city, and the center of a new *vilayet*. There would have been a need for scribes during the land registration process that followed conquest, as well as in other activities associated with establishing Ottoman administration in the region. Kanije was a more established district with a regular bureaucracy, and may not have needed *kâtib*s assigned as part of the garrison.

Similar to the situation of the *çavuş-i divan* units assigned to garrisons, the number of *kâtiban-i divan* serving at Uyvar was very small. In early 1075 A.H./1664-65 C.E. there was a unit of 4 *kâtib*s in the fort, two of whom were officers.[167] Later that year there were 5 *kâtib*s serving there.[168] Ten years later this number had only increased to 7 men.[169] The documents do not clearly set out the officers' salaries, or even their ranks, but the regular *kâtiban* earned 15 *akçe* daily.[170] We do know that the salaries for the two officers of the unit in early 1075 totaled 64 *akçe* per day.[171] We can assume that these two men were ranked *ağa* or *kethüda*.

**Müstahfız**

There is some question about who the men called "*müstahfız*" (pl. *müstahfızan*) were. The word itself comes from Arabic and means one "who appoints one to defend a place." The Redhouse

dictionary points out that it is the vulgar form of the word "*müstahfaẓ*," or "to whom the defense of a place is confided," or, more simply, a defender.[172] Hegyi notes that the *müstahfızan* were under the direct command of the *dizdar*, or warden of the fortress, and calls them "elite," but she is not clear on their relationship to the other garrison troops, especially the Janissaries.[173] Dimitrov misleadingly differentiates between the fifteenth- and sixteenth-century Anatolian *müstahfızan*, who were given *timar*s, and those in Hungarian fortresses, who were paid by the Treasury.[174]

Information from seventeenth-century sources helps to provide a fuller understanding of the role of the *müstahfızan* in Ottoman garrisons. Based on the documents I would suggest these troops can be identified as the same men that Marsigli and others call "*hısarlı*" or "*hısar eri*" ("men of the fortress") and to whom Uzunçarşılı refers as "*yerli kulu*" and "*yerli yeniçeri*" ("local slave" or "local Janissary").[175]

Marsigli writes that the *hısar eri* served directly under the orders of the pasha of the fort, who is clearly the *dizdar*.[176] Uzunçarşılı includes the *yerli yeniçeri* among the frontier forces, and also points out that they were led by the *dizdar* of their fortress.[177] They were called "local Janissaries" because of their importance in the garrison. Finally in the description of Egyptian garrisons found in the *Kanunname-i Mısr* the *müstahfızan* are identified with the *hısar eri* and their *ağa* is listed as the *dizdar*.[178] Documentary evidence bears out this conclusion. In garrison payroll records, the commander of the *müstahfız* units holds the rank of *dizdar*.[179]

*Müstahfızan* were the troops most responsible for the physical integrity of the fort, serving as they did under the direct command of the warden. They made repairs to the walls and defensive works when necessary, and engineers and craftsmen were assigned to their units.[180] Because of the importance of artillery in fortress defense, they worked closely with the *topçu* units, who also served under the supervision of the *dizdar*.[181] Some sources state that the *müstahfız* units did not have to leave the fort to join in campaigns.[182]

Financial records show that in the sixteenth and seventeenth centuries *müstahfızan* serving in forts in Hungary both earned

salaries and were granted *timar* income. *Timar*s were not only granted to the *ağa* of the unit, as with other types of troops, but the junior officers and rank and file *müstahfızan* also received grants.[183] The grants could be substantial. One *tapu tahrir* register for the fort at Lipva in Hungary shows the *dizdar* with *timar* income of 10,629 *akçe*, and his *kethüda* with income of 4,000 *akçe*.[184] The troopers in the unit received *timar*s of between 1,700 and 1,800 *akçe*. The same register shows the *dizdar*s of *parkan*s, or small fortifications, in the region of Lipva also with *timar* income of 3000-6000 *akçe*; their subordinates received similar grants to those of the men at the main fort.[185]

The *dizdar* of the fortress served as *ağa* of the *müstahfız* unit. He earned a significant salary, as well as a *timar* assignment. The *ağa*s in *müstahfız* units received between 40 and 70 *akçe* per day.[186] *Kethüda*s got from 20 to 30 *akçe*, *alemdar*s 11 to 14 *akçe*, and *çavuş*es 12 *akçe* daily.[187] Some payroll records list other officers, such as a *kâtib*, or religious officials, like an *imam* or *hoca*, with the *müstahfız* units. These men were paid salaries of between 16 and 30 *akçe* per day, with the *kâtib*s earning the higher amounts.[188] Regular soldiers served in *bölük*s of 10 men and made 8 or 9 *akçe* per day. The *ser bölük*s received 13 or 14 *akçe*.[189]

Documents from Kanije show that there were usually between 80 and 90 *müstahfızan* in the *cemaat* assigned to the garrison.[190] *Bölük*s were supposed to have 10 men with a *ser bölük*, but some pay records show *bölük*s with only one soldier and his *ser bölük*, or even just the *ser bölük*, listed.[191] These units were probably maintained in the paybooks to preserve the rank of the commander, and likely were filled in with newly assigned troops.

The extant information on the *müstahfızan* at Uyvar is a bit more detailed, albeit for fewer years. Records from 1075 A.H./1664-65 C.E. show a steady reduction in *müstahfız* forces in the garrison. At the beginning of the year there were 108 men serving in the fort. As the year progressed, the unit grew smaller, slipping first to 96, then to 89 men.[192] As has been shown in the discussions of other types of troops, in 1086 A.H./1675-76 C.E. the garrison at Uyvar was strengthened. Documents from that year show that 141 *müstahfızan* were assigned to defend Uyvar.[193]

*Müstahfiz* units were not only added to the garrison in Uyvar, but also were sent to defend the surrounding area. Two *cemaat*s were recorded as assigned to the "*varoş-i Uyvar*", or "outer precincts of Uyvar." These units, of 39 and 23 men respectively, are the only ones listed at that time not assigned to the main fortress.[194] Their duties were to defend the outer precincts of the town of Uyvar, and man smaller outer defenses when necessary.

**Martolos**

Despite the rhetoric of both Ottomans and Habsburgs portraying their conflict as a religious one, there were Christians willing to serve the Ottomans fighting against their co-religionists. Many Christian troops served the Ottomans during the early conquests of the Balkans.[195] Christian soldiers such as the *voynuk*s served in the army and Christian craftsmen and troops served in forts. The *martolosan* (sing. *martolos*) were the most important of such troops found in garrisons in Hungary in the seventeenth century.

The Ottoman term *martolos* most likely derives from the Greek *armatolos*, meaning "armed" or "weapon-carrying."[196] Forms of the word are found in Bulgarian, Serbian, and Hungarian. Despite its Greek origin, it is interesting that the term itself is not securely documented in the Greek sources until the eighteenth or early nineteenth century.[197] Some Ottoman sources refer to troops called *martolos* who were used as spies as early as the campaigns of Osman Gazi and Orhan.[198] By the fifteenth century the term is used for local Christian troops assigned to Ottoman border forts in the Balkans.[199] European sources of that period also use the term, usually in reference to Christian sailors manning Ottoman boats on the Danube.[200] In the sixteenth and seventeenth centuries, *martolos* units were found in most Ottoman frontier garrisons.

Why would Christians join the Ottoman military? It may have been that life as a soldier was more attractive than life as a farmer. Farming was hard work, and available land was difficult to find. Garrison service was by no means easy, but it was less onerous than working the land. Furthermore, some of the *martolosan* had served in irregular forces prior to the Ottoman conquest and

were thus continuing their military careers. There were also major financial advantages to becoming a *martolos* soldier. *Martolos* troops were exempt from many taxes levied on local villagers, including *harac* (a land tax),[201] *ispençe* (a type of personal tax),[202] and the various wartime taxes that came under the rubric *avarız*.[203] These exemptions were similar to those granted to the *derbendci*, men who guarded roads and mountain passes. Some *martolos* units, especially those serving in forts, were entered into Ottoman paybooks and given regular salaries. In the fifteenth century there were both *müsellem* (exempt) and *ulufeli* (salaried) *martolos* in Danubian garrisons, the latter earning two *akçe* per day.[204] By the sixteenth and seventeenth centuries, payroll records for Hungarian forts show that most *martolos* were salaried, and earned between four and eight *akçe* per day.[205] *Martolos* troops also joined their comrades in the garrisons on raids across the frontier, and shared in the proceeds.

Although the rank and file of the *martolos* units were Christian, the officers were Muslims. The leader of the *martolosan* in a fort was called *martolos ağası* or *martolos başı*. In the early years of Ottoman rule in Hungary some of these officers were granted *timar*s.[206] *Martolos* units were called *cemaat* and were subdivided into *oda*s, each comprising between five and ten men and commanded by a *ser oda*.[207] In some cases there were officers called *ser-i mie* (leader of a hundred) that were below the *ağa* but above the level of the *ser oda*.[208] This organizational hierarchy was similar to that of Janissary units.

By the seventeenth century *martolos* units are listed with a more elaborate officer corps. Payroll records for Hungarian fortresses list *cemaat*s with an *ağa*, a *kethüda* and an *alemdar*.[209] Contingents as small as sixteen *martolos* are recorded with six officers.[210] All the higher officers were Muslims, but the *ser oda*s could be Christians. Records show fathers, sons, or brothers serving in the same *martolos* units.[211] The *ağa* of a *martolos cemaat* had a daily wage of 30 or 35 *akçe*. His *kethüda* earned between 12 and 16 *akçe*, and an *alemdar* received 9 or 10 *akçe* daily. Regular troops were paid 7 or 8 *akçe*.[212]

These Christian troops played an important part in the frontier defenses of the Ottoman Empire, particularly in Hungary.[213] As Christians fighting other Christians to serve the ends of their Muslim rulers they are a prime example of how people living on both sides of the border can form a joint community, and how identity within that community can be transitional. Affiliation could change based on circumstances and individual self-interest. In the case of the *martolosan*, the economic advantages of garrison duty outweighed any reluctance to fight against fellow Christians.

In the seventeenth century the composition of the *martolos* units changed in a way that even more strongly shows the transitional nature of identity within the frontier community. As seen above, the *martolosan* were organized as Christian troops serving under Muslim officers. This confessional arrangement was the case from the earliest mention of these troops through the sixteenth century. Detailed payroll records that list each soldier's name bear this out. Of the 1,077 *martolosan* recorded in a 956 A.H./1549-50 C.E. document for the *vilayet* of Budin seventeen Muslim names are listed, not counting the *ağa*s.[214] Of this handful, six men are called "ibn Abdullah" (son of the slave of G-d), the name traditionally taken by converts to Islam. The *martolosan* of this period were overwhelmingly Christian.

Similar records for the following century, however, present a different situation. The seventeenth century witnessed an increase in the number of Muslim soldiers in the nominally Christian *martolos* units. More and more frequently frontier garrison payroll records list members with obviously Muslim names such as Mehmed, Mustafa, and Ahmed.[215] As with the earlier, isolated instances of Muslim *martolosan*, many of these men were converts carrying the name "ibn Abdullah." It appears that, for these soldiers, service in Ottoman forts, among Muslim comrades-at-arms, led to a more formal association with Islam. Records show that as their presence in these units increased, Muslims often served as *ser oda*s, suggesting that the idea that officers be Muslim may have extended down the ranks. Over time the number of Muslims in *martolos* units became significant. In some garrisons in Hungary, half the *martolosan* were Muslim.[216]

Clearly, what was once an all-Christian unit was now a mixed troop.

How many *martolosan* served in Ottoman garrisons? In the early years of Ottoman rule in Hungary there were substantial numbers of *martolos* troops assigned to fortresses in the region. After the occupation of Budin in 1541, 1,000 of the 3,500 men in the new garrison were *martolosan*.[217] By 1550 there were few *martolos* units assigned to Budin, but they still served in other garrisons in the *vilayet* (province). More than a quarter of the non-Janissary troops in the garrisons at Peşte and Estergon were *martolos*. These contingents were large, with 436 men at Estergon and 292 at Peşte. The percentage of *martolos* troops in smaller garrisons in the province was even higher, reaching as much as one-third.[218]

In the seventeenth century, although *martolos* units were found in many forts, their number in proportion to the entire garrison decreased. Payroll records from mid-century show that *martolosan* still comprised twenty-seven percent of the garrison at Peşte but only eight percent at Estergon.[219] By 1683, records show significant *martolos* units in the most forward frontier forts, such as Yanık, where they made up ten percent of the garrison, but far fewer stationed at forts deeper within Ottoman territory.[220]

How many *martolos* served in the garrisons at Kanije and Uyvar in the seventeenth century? There is only one extant *mevacib defter* for the garrison at Kanije dating from the seventeenth century which includes *martolos*.[221] This *defter* is from 1031 A.H./1621-22 C.E., and lists two *cemaat*s of *martolos* troops of 31 and 34 men respectively. Each *cemaat* is led by an *ağa*, *kethüda* and *alemdar*, and is divided into four *oda*. This contingent was the smallest active fighting force in the garrison, much smaller than that of the *azeban* or *farisan*, who numbered several hundred at that time.

The *martolos* presence at Uyvar was similar to that at Kanije, although the relative size of the two garrisons made the *martolos* a more significant group at Uyvar. For most of the period between 1075-1086 A.H./1664-1676 C.E.—the period for which documents remain—Uyvar usually had one *cemaat* of *martolos* numbering around 30 men.[222] A comparison of payroll records

from 1075 A.H. shows an increase in the number of *martolos* from 21 to 31.[223] As with other types of troops, the number of *martolos* units increased when military activity in the region of a fort intensified. In 1086 A.H. a second *cemaat* of 36 *martolos* was assigned to Uyvar to complement the *cemaat* of 31 men already in the garrison.[224]

**Sekban**

The term "*sekban*" was used, over time, to refer to several groups within the Ottoman military. In the seventeenth century there were two distinct groups with that name, only one of which was found in garrisons in Hungary. The word "*sekban*" (sometimes rendered *segban* or *seğmen*) itself derives from the Persian word for dog, and refers to a houndsman. In this context the name was used for the men who tended the Sultan's hunting dogs—*kapıkulu* who not only participated in hunts, but who accompanied the Sultan on military campaigns. This group was later incorporated into the Janissary organization and became an important part of the imperial retinue.[225] It is unlikely, however, that these are the *sekban* found in Ottoman garrisons in Hungary.

The second type of seventeenth century *sekban* were irregular auxiliary troops recruited to fill the manpower needs of the Ottoman military. These troops were also referred to as *sarıca*, and are the *sekban* who are found in frontier garrison muster rolls. These soldiers were initially used in the retinues of local governors, but the need for musket-carrying men in the army led to their use on campaign and in garrisons. *Sekban*s filled many of the same roles as *azeb* troops, and the procedure for recruiting them was similar to that used to raise *azeb* units.[226] A Janissary officer, usually a *çavuş*, would be sent out to the provinces to enroll soldiers. Landless men would be taken into the new units, and would be promised pay from the central Treasury. The officer would carry with him an order from the Sultan authorizing the enlistment of *reaya* peasants, as well as a flag (*bayrak*) which would act as the unit's standard. This standard, usually red in color,[227] represented the authority granted to the

unit by the Sultan, and its revocation was the sign that the troop was to be disbanded.

During the sixteenth and seventeenth century, some Anatolian *sekban* units refused to give up their weapons and be demobilized, and turned to brigandage. These itinerant soldiers often were hired by provincial pashas and *bey*s, and were the troops used against the state in what are known as the *celali* rebellions.[228]

*Sekban* units were organized as *bölük*s, ideally of fifty men, with the Janissary acting as *bölükbaşı*. The standard-bearer of the unit (*bayraktar* or *alemdar*) was the second in command. *Sekban* troops were generally used as infantry, although some were used as cavalry.[229] These soldiers carried firearms, and their recruitment was a response to the increased demand for men with guns experienced throughout Europe during the seventeenth century.

The *sekban* units were not, in fact, the best troops in the Ottoman army. Marsigli considered them to be the lowest of the five types of troops he lists as border forces.[230] The standards for the men enlisted as *sekban*s were lower than those for *azeb*s, who were to be young and brave. *Sekban* soldiers were recruited for numbers, in times of need, not valor. They were useful during sieges, when manpower in the trenches was important, and as reserves or camp guards on campaigns. Their frequent service in garrisons also indicates that they were inferior troops, as armies usually assign better, more reliable, troops to the field army.

It is also notable that the *sekban* units were recruited in all parts of the Empire, and that men of varied backgrounds were enlisted, including Christians. Marsigli writes that "Turks, Greeks (i.e. Muslims and Orthodox Christians) and Catholics," all served as *sekban* soldiers.[231] Ottoman sources also refer to large numbers of Christian *sekban*s among the siege forces at Vienna in 1683.[232] These sources all agree that Muslim sekban units were more trusted than Christian ones, and there is evidence that some units defected to the enemy army.[233] Once again, however, as in the case of the *martolosan*, we see the transitional and mixed nature of frontier society reflected in the frontier garrison forces.

Payroll information for *sekban* units in the seventeenth century garrisons is only found in those documents that list the pay for

Janissary troops.[234] They are not listed in the documents that record the other non-*yeniçeri* soldiers. In the Janissary records *sekban bölük*s are listed after the Janissary *cemaat*s and *bölük*s in the entries for individual garrisons. At first glance this could lead one to assume that the *sekban* units in question are the elite *sekban*s found together with the Janissaries serving in the Palace. When one considers that these men received very low pay, however, it becomes much more reasonable to conclude that they were the irregular levies rather than the Sultan's huntsmen. As is shown below, *sekban* troops in Ottoman frontier garrisons earned between 4 and 9 *akçe* a day. This salary is less than most other garrison troops received. In comparison, the elite *sekban* of the Palace were given substantial *timar* income.[235] The low-paid *sekban* of the garrisons were clearly the irregular *sekban* raised for extra manpower.

Why then are they listed in Janissary payroll records? The answer to this question lies in the method of *sekban* recruitment. It was Janissary officers who were sent out to recruit these soldiers, and who acted as their officers. It would not be unusual then for the payroll records for both types of troops to be kept together. It is likely that the central Treasury funds used to pay the *yeniçeri* were also used to pay the *sekbanan*. The *sekban* in fact might be considered auxiliaries to the *yeniçeri*.

Extant records give us very little information about *sekban* troops in the garrison at Uyvar. A lack of documentation does not seem to be the cause, as there are detailed records for the *yeniçeri* troops at the fort for the full period of Ottoman control there. Rather, it appears that *sekban* troops were not assigned to Uyvar until its final years in Ottoman hands. It is only for the years 1092 and 1096 A.H./1681-82 and 1684-85 C.E. that records show *sekbanan* at Uyvar.[236] Records for these years show four *bölük*s of *sekban* troops in the garrison. The *bölük*s varied in size from 43 to 95 men, but the total group numbered 250 in 1092 and 230 in 1096.[237] The names of the commanders of these *bölük*s are not given in the documents, but they do show that the *ser bölük*s earned 10 *akçe* per day.[238] The regular *sekban* troops in these units earned only 4 *akçe* per day.[239]

The situation was very different at Kanije. Records left for that fort show that *sekban* troops were part of the garrison during the earliest years of the seventeenth century. They do not, however, appear in records dating after 1039 A.H./1629-30 C.E. Also, unlike Uyvar, which had several units of *sekbanan*, documents record only a single *bölük* of *sekban* troops at Kanije at any one time. The only time more than one *bölük* is listed is in 1022 A.H./1613-14 C.E., when the documents show one unit being replaced with another.[240] At that time, the 29th *bölük*, which had been part of the garrison for at least two years,[241] was replaced by the 20th *bölük*, which served for at least the next five years.[242] The units are clearly noted in the documents as "*bölük-i atîk*", and "*bölük-i cedid*", or old and new *bölük*s.

The *sekban bölük* at Kanije was never a very large one. The smallest number of men for which we have records was 22 in 1027 A.H./1617-18 C.E., the largest 56 in 1032 A.H./1622-23 C.E.[243] Pay also varied during the twenty years for which records remain. *Ser bölük*s earned between 10 and 15 *akçe* per day, with the pay decreasing over the years.[244] There seems to be no correlation between the number of men in the troop and the pay of the commander, so variations in pay may be due to length and quality of service. Pay for the regular soldiers also varied between 6 and 9 *akçe* per day.[245] Unlike the commander's pay, which declined over time, the regular soldiers' pay increased through the years. In both cases, the pay was very different from that earned by similar troops serving at Uyvar later in the century.

Yet another way in which the *sekban* at Kanije stand out is that twice they were paid a bonus of 30 *akçe* per man. This happened at the end of 1032 A.H./1622-23 C.E., and again at the end of 1033 A.H./1623-24 C.E.[246] The only other type of troop for which documents show bonuses being paid are the Janissaries. This makes a certain sense, as the *sekban* served under Janissary officers, and had their muster and pay records kept together.

**Gönüllü**

As was seen in Chapter One, the *gönüllü*s were volunteers serving along the frontier with the hope of gaining a regular salary or

*timar*.[247] These volunteers were similar to the *gazi* bands of the early Ottoman period. The appeal of booty and the chance to qualify for a state salary drew young men to the frontier regions to pursue a military career. These men were Muslim, and it is probable that they had some previous military training. They most likely were the sons of Janissaries, *timar*-holders, or men in the military retinues of *sipahi*s. There is also evidence that men who had lost *timar* rights, or had deserted from the regular army and hoped to re-gain their previous status volunteered for service on the frontier.[248] Although early references to *gönüllü* troops state they did not receive a salary, by the seventeenth century these soldiers were paid by the Treasury.

*Gönüllü* troops served in both the field army and in fortresses. When serving in garrisons they came under the command of the *dizdar*.[249] These soldiers served as both cavalry and infantry and were organized in *cemaat*s and *bölük*s like the *kapıkulu* units.[250] Their units were commanded by an *ağa*, aided by a *kethüda*, with *bölükbaşı*s or *ser bölük*s leading *bölük*s of 10-30 men.[251] Vacancies in the salaried units were filled from among experienced volunteers.

Interestingly, no extant records from the seventeenth century list *gönüllü* soldiers as part of the garrison at Kanije. It may be that Kanije was not far enough forward to provide the *gönüllüyan* with enough opportunity for military action. Or, it may be that the Ottoman administration felt these troops were better used in smaller fortresses. In either case, these volunteers were vitally important to the defenses of Uyvar. Records from the seventeenth century show that *gönüllü* units were usually one of, if not the largest group in the garrison, comprising 20-25 percent of the garrison's strength.

When the garrison at Uyvar was established in 1663, 154 *gönüllü* were assigned to the fortress.[252] After the Ottoman defeat by Montecuccoli's forces at St. Gotthard in August 1664, the garrison at nearby Uyvar was strengthened. Perhaps in an effort to keep regular troops with the field army, a majority of the troops sent to the fort were *gönüllü*. 248 *gönüllü* soldiers are recorded at Uyvar in the autumn of 1664.[253] They were the

largest single contingent in the garrison. Even ten years later, when there was less pressure on the fort, *gönüllü* troops were a significant part of the garrison, with 213 men under arms.[254]

The *gönüllü* not only made up the largest part of Uyvar's garrison, they also were paid better than most other troops. Records from the 1660s and 1670s show that *ağa*s in command of these volunteers were paid between 60 and 86 *akçe* per day.[255] This salary was more than many *yeniçeri* commanders serving at the fort were paid. There is also evidence that in some cases *gönüllü ağa*s received *timar*s.[256] Junior officers too were well compensated. The *kethüda*s were paid 35 *akçe* per day; the *ser bölük*s earned 23 *akçe* daily, as did the *alemdar*. The regular troops collected between 12 and 18 *akçe* per day.[257] Again, these salaries were higher than most other soldiers in the garrison.

**Kapudan**

Among the units listed for the garrison at Uyvar is one called *kapudan*, or "captain", an Ottoman term that usually refers to the commander of a naval vessel. It is not clear who these men were. If only one man was listed as "*kapudan*" then one of several conclusions could be reached. This man might be the overall commander of military shipping along the Nitra River. Or, as Nenad Moačanin has shown, he could be the commander of one of a number of irregular units.[258] The pay and muster roll records list not just one man, however, but an entire unit, with an *ağa*, *kethüda* and other officers, as "*kapudan*."[259] I would venture to conclude that these men were involved in shipping along the river, but cannot at this time explain their exact role. Troops with this designation were not found at Kanije, which was not along a river, which lends some support to this conclusion.

At the beginning of 1075 A.H./1664-65 C.E. there were 30 soldiers serving in two *bölük*s of *kapudan* at Uyvar. Two months later, that number had been reduced to 24 men.[260] Ten years later, when the garrison was expanded, there were 66 men in the unit.[261] These men were paid an average of 9 *akçe* per day. Their *ağa* earned 60 *akçe* daily, and the *kethüda* earned 30 *akçe*.[262] The

records for 1075 also list an *alemdar* and a *kâtib* in the unit, both earning 12 *akçe* per day.[263]

**Mehter**

In the seventeenth century, soldiers called *mehter* (pl. *mehteran*) only appear in payroll records for the fort at Kanije and not in those for Uyvar. This term most often refers to the famous Ottoman military band, but it also was used for a variety of messengers, doorkeepers, or tentkeepers.[264] The musical *mehter* were usually called *mehterhane*. The leader of a *mehter* unit was called the *mehterbaşı*, but this term again could refer to the leader of musicians or of other types of *mehter* troops.[265]

Although there may have been musicians assigned to Kanije's garrison as part of the retinues of provincial governors, It is unlikely that the *mehter* listed for that garrison were musicians. In the extant documents, none of the men in the unit are listed with names or notations that indicate musical professions, as one would expect with a military band.[266] The troops called *mehter* in Kanije's garrison probably carried out the duties of doorkeepers or messengers for the commander of the fort.

*Mehter* troops at Kanije were never numerous. In 1037 A.H./1627-28 C.E. there were only 7 men listed serving in the *mehter* unit at the fort.[267] In the 1650s there were only 6 *mehteran* in the garrison.[268] These men had the same commander throughout the decade, İbrahim *mehterbaşı*, who earned 15 *akçe* per day. His troops earned 13 akçe daily.[269]

**Religious Officials**

Garrisons did not just contain fighting forces, but, as shown above, various types of support personnel, such as the *cebeciyan* and *anbarcıyan*. These men saw to the material needs of the fortress troops; there were others who tended to their spiritual needs. Religious officials of various kinds were stationed in forts, and were recorded in muster rolls. Whether they were prayer reciters, religious instructors, or mosque functionaries, these men played an important role in maintaining the morale of the garrison troops.

Religious officials are listed in the documents in one of two ways. In some cases, religious officials served alongside the other troops in garrison units. Thus, a *duagû* (sometimes called a *duacı*), or prayer reciter, is found listed together with the officers of a *gönüllü* unit serving at Uyvar in 1086 A.H./1675-76 C.E.[270] Records for the *azeb* and *topçu* units in the fort for that same year also list *duagû*s among the troops.[271] These prayer reciters were paid a few *akçe* more than the regular soldiers in the units, but less than any of the officers.

The same documents show that the garrison at Uyvar also had an *imam*, or prayer leader, and a *hoca*, or religious teacher.[272] These men were listed as part of the *müstahfız* unit. It makes some sense that these men would be listed with the *müstahfızan*, as the leader of that unit was the fortress commander, or *dizdar*. The garrison's chief religious leader would be best associated with the highest level of command. The *imam* and *hoca* were also well paid. The *imam* earned 20 *akçe* a day and the *hoca* 15 *akçe*. To put this in context, the *dizdar*, who was the *ağa* of the *müstahfız* troops, earned 40 *akçe* a day, his *kethüda* earned 25 *akçe*, *serbölük*s in the unit earned 13 *akçe*, and the regular troops earned an average of 9 *akçe* per day.[273]

More commonly, religious officials served in distinct units of their own. These units were listed in the pay records as either "*hademe-yi cami-yi şerif*" or as "*mürtezikacıyan ve duacıyan*."[274] The first group name means "servants of the holy mosque" and is the only way that the units of religious officials are listed for Uyvar. This term also appears in records from Kanije, but a number of documents use "*mürtezikacıyan ve duacıyan*." A *mürtezika* is a man who receives a salary, but the term is often associated with salaries from *vakıf*, or pious endowment, sources, and thus could be used for a number of religious officials.[275] These groups were small. The documents from Uyvar list 5-11 men in these units.[276] The units from Kanije were a bit larger, from 11-17 officials.[277] Unlike the other units of the garrison, these groups did not have an *ağa* or any other military officer leading them.

Whereas the individual religious officials listed with other units probably acted as the equivalent of modern military chaplains, the

men in the distinctly religious units seem to have been associated with institutions within the forts. Clearest are the groups listed as servants of the local mosque, the *hademe-yi cami-yi şerif*, but the groups of *mürtezikacıyan* appear to have had similar duties. A series of detailed records from Kanije from the 1060s A.H./1650s C.E. provide specific details concerning what roles these men filled in the garrison.[278] It is likely that similar units at Uyvar had similar duties.

Most of the religious officials were mosque functionaries. The documents list two or three imams in the unit. Some of these men serviced the mosque of Kanije, but some seem to have been assigned to other forts in the *vilayet* of Kanije, such as that at Ösek. The imams served together with two muezzins, called *müezzin-i evvel* and *müezzin-i sani*, or first and second muezzins. There were also two men who acted as preachers: a *vaiz*, and a *hatib*, who was responsible for the *hutbe* or Friday sermon. The rest of the unit was made up of men who filled what could be called educational roles. One was a *muallim*, or religious instructor. There were also several prayer reciters, listed as *duagû* and *duahan*, and Koran reciters, called *hatimhan*.

Intriguingly, one of the men in the unit is listed as *türbedar-ı Sultan Süleyman Han*, or tombkeeper of Sultan Süleyman Han. Kanunî Süleyman is, of course, buried at the Süleymaniye mosque in Istanbul, but it is possible that there was some sort of funereal monument to him at Kanije, near where he died on campaign in 1566.

When considering what these men were paid, it is worth noting that they are listed slightly differently than the other garrison troops in the detailed payroll records. For other types of troops, a man's name is listed, then his rank if an officer, than his daily pay. For the religious officials, the word *vazife*, or salary, always precedes their name. This notation may be because the pay documents only list their daily salary as part of the garrison, and not any other income they might have received, such as that from *vakıf* sources.

The men of the *mürtezikacıyan ve duacıyan* unit earned a wide range of pay. The highest paid man was the *vaiz*, who received 50

*akçe*, and was also the first man recorded in the documents. The muezzins earned around 20 *akçe* a day. The man listed as *türbedar* earned 23 *akçe*. It is difficult, however, to draw any conclusions about what different jobs paid. The imam at Kanije earned 36 *akçe*, but the imam at one of the subsidiary forts only earned 8 *akçe*. *Duagû*s also had varying pay—one earning 10 *akçe*, another 30 *akçe*. [279] What can be said is that, like the imam, the other officials who served the Kanije mosque earned more than their counterparts at smaller mosques in other forts. It can also be concluded that religious functionaries, on average, earned slightly more than most regular soldiers with whom they served.

**Other Garrison Troops**

The types of troops described thus far were all recorded in documents from either Kanije or Uyvar. In most cases, these kinds of soldiers were present in both forts. There are, however, a number of types that were not found in either Kanije or Uyvar, but that appear in records from other Ottoman forts in the region. To provide a complete description of garrison troops they will be discussed briefly.

Two of these other groups were, like the *topçu*, concerned with artillery. These were the *lağımcı* and *humbaracı*. The *lağımcı* were miners. They were *kapıkulu* troops who served as part of the *top arabacı* corps, and were another of the five groups of frontier troops described by Marsigli.[280]. These men were experienced in digging tunnels and were used to defend against tunnels dug by potential besiegers. When conducting a siege an army would use its miners to dig under the fortress walls and place explosive charges to breach the walls. The fort's defenders would use miners in a similar fashion to destroy the tunnels of the besiegers. Many of the *lağımcı* on the frontier came from minority populations: Armenians, Greeks, or Bosnians.[281].

The *humbaracı* (pl. *humbaracıyan*), or bombardiers, were also *kapıkulu* troops, again related to the *topçu* and serving under the *humbaracıbaşı*.[282] Their name came from their use of the *humbara*, or bomb, which was either thrown by hand or shot from a mortar. The *humbaracı* troops were paid in one of two ways.

Those stationed in Istanbul were paid regular salaries, those in the provinces were to be given *timar*s. *Humbaracı* units in garrisons appear to have been given some daily pay, perhaps in addition to their *timar* income, like many of the other garrison troops.[283] Provincial *humbaracıyan* were sent to the capital for occasional training and were often attached to the field army.

The *müsellem* troops were provincial auxiliary troops who often found service in forts.[284] The name *müsellem* means "exempt" and refers to their exemption from taxation in exchange for military service. In this regard they were similar to the *martolos*, and, like those troops, were often Christian.[285] The *müsellem* units were the last of the five infantry groups Marsigli categorized as frontier troops. These men acted as auxiliaries on the march, proceeding the main field army by a day to act as pioneers. During sieges they worked digging trenches, and in garrisons they aided the *topçu* by moving guns and casting cannon.

Another group listed in some sources as serving in garrisons were the *müteferrika*.[286] These men acted as guards, especially in the Sultanic court. They were also found in the retinues of viziers, *beylerbey*s and other officials. In forts they served the garrison commander as guards and as messengers, similar to *çavuş*es. They were often listed in pay records along with the *müstahfizan*, who also came under the direct command of the *dizdar*.[287]

Interestingly, there is one important type of troop that does not appear at all in the garrison documents for either Kanije or Uyvar: the *levend*. This term was used for irregular troop levies used in both the army and navy.[288] These men were similar to the *sekban* and *azeb* in their recruitment and organization. *Levend* troops were represented in Ottoman sources from the seventeenth century, and in the eighteenth century most irregular levies fell under this rubric. Thus it is surprising that they do not appear at all in the garrison records for Kanije and Uyvar. It may be that in this period, *levend* troops were recruited for the field army, but not used in fortresses. It is also possible that, although the term was used in the seventeenth century, it had not yet been applied to as wide a variety of troops as it was in the eighteenth century.

Finally, garrisons needed skilled craftsmen for maintenance and repair of the fortress itself, as well as the equipment inside. Various types of craftsmen are recorded in payroll records for frontier garrisons.[289] Carpenters (*neccar*), caulkers (*kalafatcı*), and blacksmiths (*haddad*) all found work in fortresses. These men were reasonably well paid, earning 6-7 *akçe* a day. In some cases the craftsmen were organized along military lines, with an *ağa* commanding men in *bölük*s.[290]

In analyzing the Ottoman frontier, knowing the varieties of troops who served in the forts is only one step. The specific mix of troops in a fort reflected both local conditions and the interests and policies of the central administration. To better understand conditions on the frontier, the size and composition of the garrisons at Kanije and Uyvar are assessed in the next chapter.

# 4

# Garrison Size

The same records that provide information about the types of troops in Ottoman garrisons also tell us the number of those troops in each fort. In assessing the total size of the garrisons at Kanije and Uyvar, however, the sources again pose problems. Documents that record all types of troops in a fort at one time are rare. Even after combining information from a series of documents for the same year, it can be difficult to determine the full strength of a garrison. In this chapter I will discuss the size of the garrisons assigned to Kanije and Uyvar, and track them through the seventeenth century, with an eye toward understanding how the Ottomans adjusted their manpower requirements in the face of Habsburg opposition. To do so, I will again draw on my database of garrison manpower and pay information compiled from archival records. These descriptions will be "snapshots" of the garrison at different points in time, most often for years where there is more abundant information, providing more detailed descriptions of the size and composition of the garrisons.[1] These "snapshots" show how the Ottomans reassigned troops to meet specific military needs.

**Kanije**

It stands to reason that immediately after the conquest of any fort the garrison assigned there would be rather large. The invading army would want to establish its power and authority in the newly-acquired fortress. It is also likely that there would be opposition in the area, so a large force would ensure that the fort remained in the conqueror's hands. This deployment is certainly the case with the conquest of Kanije in 1600 C.E.

Records show that the Ottoman garrison at Kanije was very large in the years immediately following that fort's coming under Ottoman rule. The earliest documents for the Kanije garrison show that 1,837 men served there.[2] In the subsequent three years the garrison was reduced every year, dropping to 1,313 men at the beginning of 1014 A.H./1605-06 C.E.[3] Interestingly all the men recorded in the early years were *yeniçeri* troops. The extant documents do not list any other types of troops in the garrison, perhaps because the initial garrison was assigned out of the field army which was a predominantly Janissary force. Or it is possible that there were non-Janissary troops in the garrison but no documentation about them remain in the archives.

Other types of troops first appear in the extant records in 1017 A.H./1608-09 C.E., when the garrison appears to have been reduced even further to only 541 men. In addition to 479 *yeniçeriyan*, 43 *cebeciyan* and 19 *topçuyan* were recorded.[4] Although *sekban* units first appear in records from 1020 A.H./1611-12 C.E.,[5] our next "snapshot" is for 1022 A.H./1613-14 C.E., when the documents show *yeniçeri*, *sekban*, *cebeci* and *topçu* units at Kanije.[6] Here again, the records present a reduced garrison of 254 *yeniçeri*s, 31 *sekban*s, 20 *topçu*s, and 17 *cebeci*s. These numbers are deceptive, however, as the existing records only list *kapıkulu* troops. It is likely that by this time the other types of troops one expects to find in a garrison, such as *azeb* and *faris* units, had been placed in the fort.

The "snapshot" for 1025 A.H./1616-17 C.E. is the first in which a wide variety of troops appears. The garrison at that time numbered 614 soldiers with the following breakdown by type:[7]

| | |
|---|---|
| *Çavuş-i divan* | 4 |
| *Cebeci* | 8 |
| Religious officials | 19 |
| *Sekban* | 23 |
| *Topçu* | 25 |
| *Müstahfız* | 85 |
| *Yeniçeri* | 155 |
| *Faris* | 295 |

Because of this wider array of military units, the total number of men listed for this year is probably a more reliable one than that for years where only Janissaries were listed. It is also notable that the largest group in the garrison were the *farisan*. As was shown in the discussion of the Janissaries at Kanije above, the number of *yeniçeri* troops for most of the seventeenth century was very small relative to other times. Janissary units were assigned to other duties, and the task of fortress defense, especially in more peaceful areas of the frontier, was given to non-*kapıkulu* troops.

This shift to an emphasis on non-Janissary troops is evident in subsequent years. The records for 1031 A.H./1621-22 C.E. show an increase in the size of the garrison of over one thousand men—most of them hitherto unrecorded types, such as *anbarcıyan*, *azeban*, and *martolos* troops. There were also 50 men serving in the fort who were not identified by type. The garrison total was 1644 men, in these units:[8]

| | |
|---|---|
| *Çavuş-i divan* | 4 |
| *Anbarcı* | 8 |
| Religious officials | 11 |
| *Cebeci* | 22 |
| *Topçu* | 34 |
| Type not listed | 50 |
| *Martolos* | 65 |
| *Müstahfız* | 84 |
| *Yeniçeri* | 113 |
| *Faris* | 592 |
| *Azeb* | 661 |

For the most part the numbers of the types of soldiers previously seen in the fort stayed more or less the same. The great increase in the size of the garrison came with the increase in the number of *farisan* and the assignment of a large contingent of *azeban* to the fort.

The next "snapshot," from 1037 A.H./1627-28 C.E., shows the largest recorded number of men serving at Kanije, 1,876 soldiers.[9] The documents from this year list *mehteran* for the first time. Once again the majority of the garrison was *faris* and *azeb* units.

| | |
|---|---|
| *Cavuş-i divan* | 3 |
| *Mehter* | 7 |
| *Cebeci* | 28 |
| *Sekban* | 45 |
| Type not given | 83 |
| *Müstahfiz* | 87 |
| *Topçu* | 92 |
| *Yeniçeri* | 154 |
| *Faris* | 625 |
| *Azeb* | 752 |

Another notable change is the increase in the number of *topçuyan*, which was almost three times the number present five years before.

The 1060s A.H./1650s C.E. are the best documented period for the garrison at Kanije. The archives contain a series of documents that provide extensive information on the non-*yeniçeri* troops during this decade.[10] These details can be combined with information on the Janissary forces in the garrison to assess how many troops were at Kanije in this period. Because these documents are so similar in content, and cover a short period of time, the garrison forces described can be presented together in the following table:[11]

| | 1063 | 1064 | 1066 | 1068 |
|---|---|---|---|---|
| *Çavuş-i divan* | 3 | 3 | 3 | 3 |
| *Mehter* | 6 | 6 | 6 | 6 |
| *Anbarcı* | 7 | 7 | 7 | 7 |
| Religious officials | 17 | 17 | 17 | |
| *Cebeci* | 25 | 25 | 25 | 25 |
| *Yeniçeri* | 64 | 74 | 83 | 147 |
| *Müstahfiz* | 87 | 87 | 87 | 87 |
| *Topçu* | 89 | 89 | 89 | 89 |
| *Faris* | 625 | 624 | 624 | 625 |
| *Azeb* | 826 | 829 | 849 | 692 |
| **TOTAL** | **1749** | **1761** | **1790** | **1681** |

Table 1: Garrison at Kanije 1063-1068

Looking at the numbers presented in the table, it is easy to think that these documents may not be providing new information for each year. In many archival payroll records that is indeed the case. One can find series of payroll *defter*s in which the scribe clearly copied all the information from the preceding record changing only the date. This is not the case, however, with the series of documents used in the table above. An analysis of these records reveals changes in the number of men in specific units, if not in the total numbers for the type of troop. Because the names of the men are listed, one can also track when men left the garrison, or were assigned to it.

Unfortunately, although there are pay documents for the entire period of Ottoman rule, complete records from Kanije

such as those cited above, are not available after 1068 A.H./1657-58 C.E. There are records for the Janissary units, as well as some *topçu* units, but not for the non-*kapıkulu* troops. If we accept the composition of the garrison in the first half of the seventeenth century, however, as a sort of standard, we can draw some inferences about the garrison in the later part of the century.

The Janissary contingent at Kanije remained more or less the same size from 1068 A.H./1657-58 C.E. until 1093 A.H./1682 C.E. when it grew dramatically. In this period there were usually between 150 and 200 *yeniçeri* in the garrison. In 1093, the number of Janissaries increased to over 500, and rose to over 700 within three years. These years were, of course, the period of the campaign against Vienna and the wars following the failed siege. Thus it makes sense that Kanije's garrison would grow.

One could assume that if the number of Janissaries stayed steady until 1093 A.H./1682 C.E. then the numbers of other types of troops also remained steady. This would give us a garrison of around 1,700 men until the troop increases at the end of the seventeenth century. There are no extant documents that record non-Janissary troops at Kanije for this later period, so we cannot estimate their numbers. It would be reasonable, however, to think that the number of other troops also remained steady, and perhaps also increased. Estimates of exactly how much they may have increased would of course be difficult to make. We could perhaps assume, though, that fort was capable of housing as large a garrison at the end of the period of Ottoman rule as it had when first captured. This leaves us with an estimate of over 1,800 soldiers.

In conclusion, it is important to note that the garrison at Kanije was overwhelmingly made up of non-Janissary troops. Overall, *kapıkulu* troops were not a significant segment of the garrison. The provincial troops, the *farisan* and *azeban*, were the backbone of the fort's defense. As will be shown, the situation at Uyvar was very different.

**Uyvar**

An analysis of the extant seventeenth century payroll records for Uyvar shows that Janissary troops were a much more important part of the garrison than they were at Kanije. This conclusion is initially influenced by the nature of the existing documents. Unlike Kanije, very few documents recording the non-*kapıkulu* troops at Uyvar remain. Most of the *defter*s from Uyvar in the archives record the Janissaries, and not troops such as the *azeb* or *faris* units. Of course, this does not mean that other kinds of troops did not serve in the garrison. There are several documents that give information about these men. The importance of the *yeniçeri* is seen not so much by the number of documents in which they are listed, as by the numbers of Janissaries reported at Uyvar. At Kanije, when *yeniçeri* were listed the number of men was quite small—usually under 200. As will be seen, records for Uyvar show much larger numbers of Janissaries. Furthermore, when records list varying types of troops in the garrison, the Janissaries appear as a much more significant percentage of the total.

As was the case at Kanije, the garrison assigned to Uyvar after the Ottomans captured the fort was quite large. Records show 1,452 men in the fort in the first half of 1074 A.H./1663-64 C.E., and 1,442 men in the second half of that year.[12] These records only list *kapıkulu* troops—the vast majority *yeniçeriyan*, with a handful of *çavuşan*. Again, as with Kanije, this overwhelming preponderance of Janissary troops seems reasonable, as the initial garrison would be drawn from the recently victorious field army.

For the following year, 1075 A.H./1664-65 C.E., the documents provide a much richer picture of Uyvar's garrison. The payroll records for this year are more detailed than those for many other years, and they give information for three distinct periods during 1075. They also present information for non-Janissary troops for the first time. Records exist that document the garrison in both the beginning and end of the year. It should be noted that one document is unusual for allocating payroll in two-month periods, rather than the more standard three-month quarters.[13]

The garrison in 1075 was much smaller than in the previous year. Records for the months of Muharrem and Safer of that year list a garrison of 629 men, less than half the men serving in the garrison just after its capture.[14] Notably, the number of Janissaries in these documents is very low. In the first two months of the year, only 80 *yeniçeri* are listed. These troops may have been reassigned to the field army, which was active in this area at that time. The full roster of the garrison was:[15]

| | |
|---|---|
| *Çavuş* | 4 |
| *Kâtib* | 4 |
| Religious officials | 6 |
| *Topçu* | 6 |
| *Cebeci* | 14 |
| *Martolos* | 22 |
| *Kapudan* | 30 |
| *Yeniçeri* | 80 |
| *Faris* | 81 |
| *Müstahfiz* | 108 |
| *Azeb* | 120 |
| *Gönüllü* | 154 |

As noted above, *gönüllü* troops were an important part of the military force stationed at Uyvar, especially when there was military activity in the area. The *gönüllü* were volunteers, fighting for a permanent army salary, and thus would go where there were opportunities to see action. Here they were the largest group in the garrison.

The records for the next two months, Rebiülevvel and Rebiülahir, 1075 A.H./1664-65 C.E., show that the garrison was enlarged by over 200 soldiers, to a total of 845 men. There were increases in every type of troops, except for *müstahfiz, martolos*, and *kapudan* units. Some of the increases were substantial. The Janissary contingent more than doubled, and almost 100 more *gönüllü* troops joined the garrison. Listed according to type they were:[16]

| | |
|---|---|
| *Kâtib* | 5 |
| *Topçu* | 13 |
| Religious officials | 14 |
| *Çavuş* | 16 |
| *Cebeci* | 20 |
| *Martolos* | 21 |
| *Kapudan* | 24 |
| *Müstahfiz* | 96 |
| *Faris* | 100 |
| *Azeb* | 123 |
| *Yeniçeri* | 165 |
| *Gönüllü* | 248 |

It is likely that the increase in garrison manpower was related to the loss at St Gotthard, which happened in August 1664, just a month before the pay period this document records. The groups that increased the most were more combat-oriented, such as Janissaries, *gönüllü*, and *faris* units. This increase was probably due to efforts to reinforce the border defenses, as well as find a place for elements of the field army to fall back and re-group.

By the end of the year, the garrison had changed very little. The garrison "snapshot" looked like this: [17]

| | |
|---|---|
| *Kâtib* | 5 |
| Religious officials | 13 |
| *Çavuş* | 14 |
| *Topçu* | 19 |
| *Cebeci* | 30 |
| *Martolos* | 31 |
| *Kapudan* | 34 |
| *Müstahfiz* | 89 |
| *Faris* | 100 |
| *Azeb* | 123 |
| *Gönüllü* | 152 |
| *Yeniçeri* | 200 |

The total number of soldiers dropped only 35, to 810 men, but there were far fewer *gönüllü* troops in the fort than at the beginning of the same year.

Although the records for this year portray a very diverse garrison, it should be noted that these are some of the smallest garrison totals in the entire history of Ottoman control at Uyvar. While the field army was campaigning in the area, garrison forces may have been reduced to enhance the size of the expeditionary force. The records for the previous and following years both show a much larger garrison, and both only list *kapıkulu* units. In fact, only one other set of records, that for 1086 A.H./1675-76 C.E., shows a wide assortment of troops types at Uyvar. All the other extant documents list only *kapıkulu* troops: Janissaries, *cebeciyan*, *topçuyan*, and *çavuşan*.

It is unlikely that only Janissaries served in the garrison in these intervening years, but again sources pose a problem. Documents that record non-*kapıkulu* troops simply were not preserved to the present day. *Kapıkulu* troop payroll records were usually kept separate from those of other troops, and they are available in the archives. Thus, any analysis of the garrison size is biased toward the troops for which records exist. It is likely that the actual garrison totals were much larger than the extant documents record, as these documents tend to only be for the Janissaries and other *kapıkulu* troops.

That is not to say that *yeniçeri* troops were not the predominant group in the garrison during Ottoman occupation. Clearly, even though we lack information on the other troops in the garrison, the information we do have underscores the importance of the Janissaries of Uyvar. The fort was held by the Ottomans for only twenty-two years. During that time, it was one of the farthest-forward defensive outposts on the frontier. Large-scale military action, or the threat of such action, was a constant in the region of the fort. Under such conditions, it made sense to keep top troops in the garrison, and so Janissaries were assigned there in large numbers. The documents support this. For much of the period of Ottoman control, the garrison at Uyvar included over

one thousand Janissaries. The number of Janissaries alone was often larger than the full garrison at Kanije.

These numbers were substantial. Records from the middle of 1076 A.H./1665-66 C.E. list a garrison force of 1,282 Janissaries.[18] Later that year there was a slight reduction to 1,217 Janissaries.[19] Records for the following year, 1077 A.H./1666-67 C.E., list troops other than Janissaries, but they are all *kapıkulu*. At the beginning of that year the garrison had 1,207 *yeniçeriyan* and 60 *topçuyan*, for a total of 1,267 soldiers.[20]

For the next four years, 1078-81 A.H/1667-71 C.E., the archives hold records that provide information not only about the Janissaries, but about other *kapıkulu* troops at Uyvar. The majority of the soldiers recorded are still Janissaries, but *topçu*, *cebeci*, and *çavuş* units all appear in the documents. Because of the similarity in the records, their information can be presented in the following table:[21]

| Pay period | *Yeniçeri* | *Topçu* | *Çavuş* | *Cebeci* | **Total** |
|---|---|---|---|---|---|
| *lezez* 1078 | 1182 | 60 | 1 | | **1243** |
| *masar* 1079 | 1182 | 60 | 1 | | **1243** |
| *recec*, *reşen*, *lezez* 1079 | 976 | 61 | 2 | | **1039** |
| *masar*, *recec* 1080 | 961 | 74 | 1 | | **1036** |
| *reşen* 1080 | 954 | 74 | 1 | | **1029** |
| *masar*, *recec* 1081 | 924 | 64 | 1 | | **989** |
| *reşen* 1081 | 891 | 64 | 1 | 146 | **1102** |

Table 2: *Kapıkulu* Troops at Uyvar 1078-81

As seen here, there was a gradual reduction in the number of Janissary troops assigned to the fort. The number of *çavuş*es also decreased from the higher number listed in the documents for earlier years. There were, however, many more *topçuyan* in the garrison than before. Similarly, the number of *cebeci* recorded at the end of 1081 A.H./1670-71 C.E. is a substantial increase over that recorded earlier.

Although the first half of 1082 A.H./1671-72 C.E. saw an increase in the Janissary force at Uyvar to 952 men, this force once again was gradually reduced over the subsequent years.[22] The *yeniçeri* contingent dropped to 907 men in *reşen* and *lezez* 1082, and was recorded as 905 men the following year.[23] In 1084 A.H./1673-74 C.E., there were significant changes in the number of Janissaries in the fort. The garrison added 43 *yeniçeri* in the first half of the year, to bring the total to 948 Janissaries.[24] Many more men, however, were transferred out of the fort in the second half of that year. Records for *reşen* and *lezez* 1084 list only 721 Janissaries.[25] These force reductions were probably related to the Ottoman offensive against Poland that same year.

Documents from 1086 A.H./1675-76 C.E. show another substantial drop in Janissary forces, but there are also records for non-*kapıkulu* troops from this year, which provide a better, more full, description of the garrison. The listings of Janissary troops record 739 men in the first two quarters of the year, but only 649 men in the last part of the year.[26] Again, Ottoman campaigns against Poland may have drawn away *yeniçeri* troops. The complete garrison, however, was larger than just the Janissary contingent. The other troops listed for Uyvar in 1086 were:[27]

| | |
|---|---|
| Religious officials | 21 |
| *Kâtib* | 7 |
| *Çavuş* | 20 |
| *Topçu* | 56 |
| *Kapudan* | 66 |
| *Martolos* | 66 |
| *Cebeci* | 71 |
| *Azeb* | 202 |
| *Müstahfız* | 203 |
| *Gönüllü* | 213 |
| *Faris* | 259 |

Thus, when combined with the Janissaries, the garrison total was 1,923 men in the first half of the year, and 1833 in the latter half.

Not all of the troops in the above list were assigned directly to the fort at Uyvar. Some of the *martolos*, *azeb*, and *müstahfiz* units were assigned to the outer precincts of the town. These troops appear in the documents with a heading such as "*azeban-i varoş-i Uyvar*," or "*azeb*s of the suburbs of Uyvar," using the Hungarian word for suburbs. There were 35 *martolos*, 45 *azeb*, and 62 *müstahfiz* soldiers in these suburban units.

Unfortunately, 1086 is the last year for which information remains for a wide variety of troops. Records for the remainder of Ottoman control of Uyvar show only *kapıkulu* troops, or those closely associated with them. Specifically, there is information about the Janissaries in the fort, as well as the *topçu* and *sekban* troops.

As with the earlier period, the last years of Ottoman rule at Uyvar witnessed major fluctuations in garrison size. Again, we have only information for the fort's *yeniçeri* units, but changes in their numbers reflect the garrison as a whole. In the first half of 1087 A.H/1676-77 C.E., the garrison contained 638 Janissaries, down a few men from the end of the previous year.[28] Records for *reşen* and *lezez* of that year, however, show an increase of over 250 men, to 893.[29] By the end of the following year, 1088 A.H./1677-78 C.E., the garrison had grown slightly with 917 *yeniçeri* recorded.[30] Documents from the next pay period, *masar* 1089 A.H./early 1678 C.E., list a smaller Janissary contingent of 811 soldiers.[31]

Records for 1092 A.H./1681-82 C.E. show both larger garrison forces and great changes in the size of the garrison. Both developments can be traced to the build-up of Ottoman forces prior to the campaign against Vienna. Two documents from this year remain. Each describe not only Janissary troops, but also *sekban* units. As seen above, *sekbanan* acted as auxiliaries to the *yeniçeri* forces. These documents give us two "snapshots" of the garrison in 1092. In the first, the garrison is at its largest size, with 2,251 Janissaries and 155 *sekban*s.[32] The second document, from the latter half of the year, lists a relatively much smaller, but still large garrison with 1,093 *yeniçeri* and 95 *sekbanan*.[33] Uyvar was a major staging area for the campaign against the Habsburgs, and

so the tremendous increase to its garrison prior to the action is understandable. The fort would also prove to be an important defensive position if the campaign did not go well—which turned out to be the case.

Documentation for the remaining Ottoman years at Uyvar are spotty. There is one paybook for *topçu* forces that lists 135 men serving in the garrison in *reşen* and *lezez* of 1095 A.H/late 1684 C.E.[34] The last record extant for Uyvar's garrison dates from the last year of Ottoman power there, 1096 A.H./1684-85 C.E. This document again lists only Janissaries and *sekbanan*, and describes a large garrison force of 2,458 men: 2,228 Janissary and 230 *sekban* soldiers.[35] As with the records from the early years after the fort's conquest, many of these troops may have been members of the field army, assigned to defend this vital fortress against the troops of the Holy League.

It is clear that, overall, Janissaries played the major role in manning the garrison at Uyvar. This is true, even when considering the bias toward *yeniçeri* numbers caused by the limited documentation for other types of troops. For periods where more detailed records remain, the Janissaries still appear as one of, if not the, largest groups in the fort. For the periods where only information on the *yeniçeri* remain, the sheer number of men recorded leads to the same conclusion.

**The Forts Compared**

A comparison of the two forts and their garrisons reveals some interesting conclusions. Because Kanije was a much larger town, one would expect the garrison there to be larger than that at Uyvar. The records show this is not the case. As has been shown, Kanije's usual garrison can be estimated at around 1,700 men. Uyvar's garrison, however, was often even larger, especially in the later years of the century when the garrison numbered over 2,000 men. Even though Uyvar was a smaller town than Kanije, its location farther forward on the frontier necessitated a stronger garrison.

In fact, the total number of men recorded in either fort during Ottoman rule is surprisingly close. This is especially striking

when one considers that the Ottomans held Kanije almost four times as long as they did Uyvar. During a period of 87 years, records list a total of 44,693 men who served at Kanije. The total for Uyvar was 38,120 men over only 22 years. Looking at these totals it becomes clear how many more troops were needed in the farthest-forward positions of the defensive line. These raw figures also underscore the difference in the importance of *yeniçeri* troops in the two fortresses. 32,004 Janissaries served at Kanije over the full span of Ottoman rule there, and 33,061 Janissaries served at Uyvar during its shorter period under the Ottomans. Although these are very rough numbers, they do give an impressionistic sense of the comparative strengths of the two garrisons.

There were also clear differences in the types of troops serving at Uyvar and Kanije. As has been shown, the relative location of the two forts was a determinant of what kinds of troops served in the garrison. Thus at Uyvar, because it was one of the front-line forts, Janissaries were the major component of the garrison, whereas they played a much smaller role in staffing Kanije. *Gönüllü* units also served at Uyvar and not at Kanije, which was another result of Uyvar's forward position.

Similar tactical considerations led to other differences in the makeup of the garrisons. As a forward base, Uyvar's garrison was made up of top combat troops and a large contingent of volunteers. These troops would be used to counter raids carried out by Habsburg troops, and to conduct raids themselves. The orientation of such a garrison would be more offensive than defensive. The garrison at Kanije, located deeper inside secure Ottoman territory, may have been oriented more toward defense. This is not to say that the troops from Kanije did not carry out their own raids. Rather, the types of manpower assigned to the fort suggest more defensive preparations than at Uyvar.

One aspect of the garrison composition that suggests such defensive preparations is that a much larger number of *topçu* and *cebeci* troops were assigned to Kanije than to Uyvar. The larger number of *topçuyan* implies that there were more cannon at Kanije, which would be vital in the defense of the fort. Similarly, the

higher number of *cebeciyan* suggests an environment in which stockpiling and preparing equipment was important. It was not until the last years of Ottoman rule at Uyvar that there was a significant increase in the number of *topçu* and *cebeci* units—a period in which Habsburg offensives demanded defensive preparations in Ottoman forts on the frontier.

The similarities in the types of troops found in both forts, however, allow us to draw some general conclusions about the composition of an Ottoman frontier garrison. Forts all had a commander, the *dizdar*, and he would have the *müstahfizan* under his command. These men were the most basic component of the garrison, charged with its basic upkeep and defense. Another group associated with the more concrete physical aspects of a fort were the *topçu* units, who saw to the care and operation of the fort's guns.

The main force of the garrison would have both infantry and cavalry troops. The relative proportion of these troops, and the specific types of soldiers in these categories, however, does not seem to have been standardized. *Yeniçeri* units were certainly present at larger forts, but as has been seen in comparing Uyvar and Kanije, the number of Janissary troops in a garrison could vary widely. Provincial infantry troops, the *azeban*, often made up the bulk of the garrison infantry, especially in smaller fortifications. Most cavalry troops, at least along the Habsburg frontier, were provincial *faris* units. These combined foot and mounted forces provided the fort both offensive and defensive capabilities.

Garrisons often also contained what could be termed ancillary combat units. Troops like the *sekbanan*, *martolosan*, *kapudan*, and *gönüllüyan* could all be put into this category. As has been shown, these types of soldiers could be a significant part of a garrison, as the *gönüllü* were at Uyvar. These were not troops, however, who would be found in every fort. The *kapudan*, for example, only served in Uyvar, which was along the river. Many of these soldiers, especially the *martolos* and *gönüllü* units, were very versatile and could serve as either infantry or cavalry.

Finally, a garrison would have support troops. The rest of the types of soldiers found in the documents from Uyvar and Kanije fall into this category. The religious officials ministered to the garrison's spiritual needs and served the fort's mosques, and *cebeci* and *anbarcı* units tended to the supplies. Other units, such as *kâtib* and *çavuş* troops, were part of the administrative apparatus of the garrison.

Within this rough outline, however, there was great variation. In just the two forts under consideration here there was a wide variety of types of troops serving in the garrisons. Widely differing proportions of cavalry and infantry were used, and different types of troops filled roles in both services. What factors determined the mix of troops? Can we say there was such a thing as a "standard" Ottoman frontier garrison? Probably not. Although there were basic requirements for a garrison, outlined above, there does not seem to have been specific guidelines as to what kind of troops to use.

Clearly tactical considerations dictated some aspects of troops composition. A large fort with many cannon would need more *topçu* units. A small *palanka* along an active border might require more cavalry troops. Furthermore, the number of Janissaries assigned to a fort was influenced by the need for those troops along other frontiers, or in the field army. The mix of troops within a category, however, does not seem to have been dictated by obvious tactical needs. In a garrison there was often no functional difference between *sekban*, *azeb*, or *martolos* troops.

It is likely that assignment of certain types of troops was influenced by factors similar to those that led to units with only a few men being maintained. That is to say, there were individuals who had a material interest in ensuring the continued existence of certain troop formations. The officers and men responsible for raising the troop levies for *azeb* or *sekban* units would want to keep those units intact and active. This may explain the multiplicity of similar kinds of troops.

This does not mean that Ottoman garrisons were haphazard collections of men. The documentation clearly shows that the central administration knew what troops were serving where, and

reassigned troops in response to strategic and tactical developments. Although the continued existence of a wide variety of troop types showed a reticence on the part of the government to standardize the military, these units were effectively used to defend the frontier. This situation is another example of the pragmatism that was in many ways the hallmark of Ottoman frontier administration. Local conditions—the need for infantry or cavalry, the availability of provincial *azeb* or *faris* troops or local *martolos* units—were assessed, and the frontier defense system was adapted to those conditions.

# 5

# Frontier Administration

The preceding chapters discussed Ottoman frontier fortresses and the men who garrisoned them. This chapter will consider the relationship between those garrisons and the central administration in Istanbul. How were decisions on the frontier made? Did the Sultan's government make all the decisions or did provincial officials have autonomy? Clearly, there was some systematic division of responsibilities. In the case of fortress repairs we have seen that decisions were made at the highest levels. The Sultan's *tuğra* sealed the orders mandating the repairs and allocating the requisite funds.[1] On the other hand, local commanders must have had the ability to make tactical decisions in leading raids against the enemy and, in turn, defending against their depredations.

The provincial and central administrative officials had different interests and concerns. For most of the century the Porte wanted to preserve peace with the Habsburgs and to minimize military activity. The provincial troops, however, relied on that activity to supplement their salaries. A *defterdar* assigned to a garrison needed to preserve the resources of the provincial

treasury. The financial scribes at the center were more concerned with ensuring that provincial taxes made it to imperial coffers.

Communication between the two levels of administration was limited by the speed of travel from the provinces to the center and back again. Although the Ottomans did maintain a courier and post-station system—the *menzilhane*—it was primarily used for high level correspondence.[2] It could sometimes take months for orders to reach frontier garrisons, or for information on decisions taken by provincial officials to reach the Porte.

In this chapter I will consider some of the administrative issues the Ottomans faced in controlling their frontier in Hungary. The focus here, as in other chapters, is on periods of the seventeenth century that were "peaceful" along the frontier—that is to say when there were no major military campaigns. These issues, derived from the extant documentation, are primarily financial, having to do with tax revenues and military spending, especially payroll. I will address the question of administration from two directions: "From the top down," emphasizing the interests and records of the central government, and "from the bottom up," focusing on the evidence of provincial officials.[3]

## Concerns of the Central Administration

### *Garrison Payroll*

During the seventeenth century, security on the frontier in Hungary was a main concern for the Ottomans Despite the raids by garrison troops and the campaigns against the Habsburgs in 1663-64, as well as an official ideology of *gaza*, the century saw little change in the size of the territory controlled by the Porte. The related goals of ensuring tax collection and maintaining an effective military presence became the main priority of the central administration.

The most prominent administrative problem in dealing with garrison troops was paying them. Although there were a number of other ways to recompense garrison troops, their state-issued salaries accounted for the largest proportion of their earnings.[4] As was shown in the previous chapter, Ottoman troops' pay was

based on a per-day allocation, and was to be calculated and disbursed quarterly.

The archival records provide an idea of the administrative process involved in paying the garrisons. The local *defterdar* would draw up a payroll document, called a *mevacib defteri*. Ideally, this *defter* would record each soldier's name, unit, and daily pay, as well as the total amounts for the pay period. These records were collated and sent to the central treasury at Istanbul. Some of these records exist today in the Başbakanlık Osmanlı Arşivleri (Prime Ministerial Ottoman Archives).

Many of these *defter*s are clearly the clean copies sent by provincial officials to their superiors in the capital. These documents are neatly written, and have little marginalia other than figures double-checking the math in the document. Such marginal arithmetic computations were common in pay documents, as the entries were made using the difficult *siyakat* financial script in which numbers were represented by abbreviations derived from their Arabic names.[5] Although this shorthand was effective for keeping financial records safe from prying eyes, it was not conducive to quick or easy calculation.

Other documents in the archives present clues suggesting that they are the working copies of the paybooks kept by the *defterdar* in the fort, and later collected by the central treasury.[6] These documents are much less neatly written, and contain a diverse array of marginal notes, including information on when men were re-assigned or left the unit, and debts owed by soldiers who had borrowed against their future salaries.[7] This is the sort of data that the local bureaucrat would need, but which might not have been reported to the central financial authorities.

Other aspects of the contents and layout of these latter documents support the idea that they are working copies. Some *defter*s list payroll information for the same forts for a period of several years.[8] These notebooks might have been kept by the *defterdar* over the course of his tenure in the post, from which he made the clean copies to send to the central office.

Duplication of information in different registers also implies that these documents may have been working copies. In some

cases two documents record payroll data for the same forts and pay periods. For example, two separate *defter*s list the pay for Janissary troops stationed at Estergon for the period June 1660-May 1661.[9] Similarly, there are duplicate records for Janissaries at Kanije and Estergon for two pay periods in 1675.[10] These *defter*s are not simply copies of each other. If they were, they would only list identical information. Instead, these documents contain both the matching records and data for different pay periods. It is likely that these notebooks are working copies, perhaps kept by bureaucrats both in the *vilayet* centers and the garrisons.

*Late Payments*

The documents also tell us how often the troops were paid. Although soldiers were supposed to be paid every quarter, the frontier garrisons often were paid less frequently. Regularity of pay was related to how much military activity was taking place along the border. Saving money for the treasury was a bureaucratic virtue, and efforts were made to minimize cash flow from the state coffers. The seventeenth century was a period of frequent fiscal shortages for the Ottoman Empire, and the central treasury attempted to husband its resources by issuing pay only when it had to. [11] In times of war, it was imperative to keep morale up by promptly paying the troops. The field army received the first pay allotments, followed by garrisons that were likely to come under fire. If the region was quiet, the treasury could, and did, wait to pay garrison soldiers. This situation was neither specific to the Ottomans, nor to the seventeenth century. In the sixteenth century Ottoman frontier troops were paid their wages only every six months or, when it was particularly calm, annually.[12] Other early-modern states pursued similar policies.[13]

It is true that late payments of this sort were of benefit to the central administration. The money earmarked for garrison salaries could be used for other purposes. The advantage, however, was short-term. The garrison troops would have to be paid eventually, and, when they were, their back pay would have to be disbursed as well. Furthermore, just as prompt payment helped morale, late payment eroded soldiers' trust and reliance on

the state. There was also an economic problem for the garrisons: If the treasury was not paying them, how did they make a living? As will be shown later in the chapter, garrison troops did find alternative sources of income when their pay was not forthcoming.

A survey of the *mevacib defterleri* from the seventeenth century shows that garrison troops on the Hungarian frontier rarely received pay every quarter. Most commonly pay was recorded and disbursed for at least two pay periods at time. For the first quarter of the century the extant records show even less frequent payment. Between 1014 and 1037 A.H./1605-27 C.E. men usually received their salaries annually, but with several instances of paydays coming after five, six or even nine quarters.[14] During the next 40 years examples of disbursements for two pay periods become more frequent, but annual pay is still more usual, and cases of disbursements for five and six quarters were not unknown.[15] Neither the type of soldier nor the fort in which they were serving seemed to make a difference in how often they got paid. The archival records show Janissary, *cebeci*, and *azeb* units stationed in all the frontier outposts being paid with the same lack of frequency.

It was only after 1074 A.H./1663-64 C.E. that semi-annual pay disbursements became the norm along the frontier. This improvement coincided with the campaign against the Habsburgs that same year. The documents from the preceding year show pay being issued for between four and six pay periods, but usually every two periods in the subsequent few years.[16] It appears that the treasury officials were squaring the books with the garrisons in preparation for the upcoming military action.

From 1079 A.H./1668-69 C.E. to 1085 A.H./1674-75 C.E. Ottoman soldiers in Hungary were usually paid twice a year, but some still received their salaries less often.[17] Disbursements for 12-18 months were not uncommon.[18] After 1086 A.H./1675-76 C.E., however, the documents show pay again issued every two pay periods. This schedule continued with only one exception until 1096 A.H./1684-85 C.E.[19] Only one document, from 1093 A.H./1682 C.E., shows some Janissary troops getting cumulative

pay for three and four periods.[20] The date indicates this disbursement may have been in preparation for the 1683 attempt on Vienna; the Ottomans, like their peers to the West, making sure to pay troops right before they were called upon to fight. After 1096 A.H./1684-85 C.E. the documentation becomes spotty but it appears that pay delays become more common. *Defter*s from 1105 A.H./1693 C.E.—the latest seventeenth-century pay books extant in the archives—record disbursements for multiple periods.[21] In one case troops at Temeşvar got three years worth of back pay in one disbursement.[22]

*Copying Records and Nonpayment*

The *mevacıb defteri* indicate that paying soldiers late was only one of the steps financial authorities took to save the state money. A series of pay documents provides information that raises the question whether any pay was being issued at all.[23] These documents record pay for Janissary troops stationed at frontier forts, including Uyvar, Kanije, Budin, Yanık, Eğri, Estergon, and İstolni Belgrad. They cover a seventeen-year span, dating from the period 1076-93 A.H./1665-82 C.E., which was a relatively quiet one along the Habsburg border, coming between the major campaigns of the century. This type of peaceful period was exactly the time in which an early-modern state could neglect its garrison troops. If the region was not under military pressure, there was less need to keep the soldiers happy by using limited resources to pay them.

The arrangement and contents of the *defter*s suggest that some of the information they contain was simply copied from an earlier register, rather than compiled in conjunction with an actual muster and payment of the garrison. Since these new records would show that the troops had been paid, even though they had not, there was no reason to actually disburse any funds. This copying may have been bureaucratic artifice designed to balance the books without having to hand out any money during a time when the treasury was short. Such copying would also lighten the work load of the *defterdar*, as he would not have to survey the garrison and note each man's name and pay. Instead, he could

use older documents to produce new reports to send to his superiors.

Copying old pay records to produce new ones could also have worked to the advantage of garrison commanders. As discussed in Chapter Three, units were often kept on the books even if there were few men officially serving in them. Keeping men who no longer may have been in the garrison listed in the pay records could bring extra money to the fort when pay was issued. *Defterdar*s and unit commanders may have colluded to list more men than were actually present in the fort.

The first indication that these documents may have been copied one from the other is the presence in many cases of information for later pay periods appearing in the *defter* before earlier ones. In one *defter*, for example, data for 1079 appears before that for 1077 and 1078, and in another the last half of 1086 is recorded before the beginning of that year.[24] If the *defterdar* was recording the information as he dealt with payrolls, the data would certainly be in the proper chronological order. If, however, a scribe was copying data from a series of older records it is more likely that such mistakes could be made.

In several cases information appears twice in the same *defter*. This happens with the data for the forts at both İstolni Belgrad and Yanık for the second half of 1088 A.H./1677-78 C.E.[25] Similarly, the information about the garrison at Estergon in late 1090 A.H./1679-80 C.E. is noted twice in another *defter*.[26] In all three cases the duplicated listings appear one right after the other. Such doubling further suggests that a *defterdar* was copying, rather carelessly, old documents.

Another aspect of this series of records suggesting their contents were copied is the listing of the same units as serving in the same forts through the entire period covered by the documents. These *mevacıb defter*s, like some others, record the *cemaat*'s unit number as well as the total men and pay. This detail makes it easy to track the service record of specific units. As was seen in the previous chapter, certain units did have long tenures in their garrisons. In the case of this series of *defter*s, however, all the units listed for Budin, Estergon, Eğri, Kanije, İstolni Belgrad,

and Uyvar were the same over almost 20 years. All the documents show Janissary *cemaat* 80 assigned to Budin, *cemaat* 96 to Kanije, *cemaat* 84 to Eğri, *cemaat* 97 to Estergon, and *cemaat*s 67, 29, 31, and 44 to Uyvar. It is possible that some of these groups had long histories in these specific forts, but for all of them to have such long tenures raises questions about the accuracy of the *defter*s.

If these records were produced by a scribe copying from earlier registers, one would assume that the information in the documents would be similar. This is indeed the case. Throughout the seventeen-year span of these *defter*s the number of men and their pay remains close to the same. There are slight variations, but the totals are very steady. Budin always is shown with around 160 men, Estergon is listed around 120, Kanije around 190, and İstolni Belgrad around 90. It is possible that all these forts saw steady force levels but it would have been very unusual if they were this steady over such a long period. Some of the *defter* listings are for three and four pay periods—a long time to go with no personnel changes of any kind. The differences that do exist may be the result of the *defterdar* making minor changes in the totals as he produced the new documents.

Not all the totals in these registers are equally questionable. Internal evidence suggests that this series of *defter*s was compiled at Uyvar. When listing the Janissaries for Uyvar the documents record at least 5 *cemaat* and at least 6 *bölük*. Only one or two *cemaat* are recorded for any of the other garrisons in the *defter*s. There is also more variety in the totals for Uyvar in the series of documents. It may be that the information recorded about Uyvar was based on some actual reckoning done there, while the data for other forts was merely copied and, where necessary fabricated, to fill out the *defter*.

All together, the above evidence makes a good case for some bureaucratic copying of previous records, at least for this series of documents. Most likely this activity was intended to save the treasury money. If it went on without the overt approval of the central bureaucracy, such action on the part of local financial authorities demonstrates increased administrative decentralization

during the seventeenth century, or at least a lessening of central control. It is also possible that the copying was done with the knowledge of bureaucratic superiors in the capital.

*Alternatives to Direct Payment*

The central financial authorities had several means by which they could reduce the amount of money taken from the treasury to pay garrison salaries. One method, called *hesab-ı sülüsan*, or sometimes *sülüs sülüsan*, was an Ottoman financial practice in which only two-thirds of the required amount was paid or granted. It was used when the treasury did not have enough money to pay a given expense in full. A number of payroll records give evidence of this practice along the seventeenth-century frontier. In one example the decrease is made obvious by notations alongside the pay totals, together with calculations of the new two-thirds amounts in the margins.[27]

This money-saving accounting practice was used for payroll, as well as any other expenses due from the treasury. It was also employed by provincial *defterdar*s to reduce the amount of tax revenues that they had to remit to the center. A document from Uyvar shows the local official applying *sülüs sülüsan* to *cizye* revenues sent to Istanbul as well as those collected for local use.[28] In this case, the *defterdar* realized that collecting the full amount of the *cizye* would be problematic in light of his difficulties with local pashas, but that he would be able to arrange with them to collect two-thirds the amount and send it to the central administration. The *hesab-ı sülüsan* was an effective means for all financial officials to deal with scant resources.

A more common alternative to issuing pay from the treasury was assigning revenues to a garrison as *ocaklık*, a practice similar to *mukataa* tax-farming. In a *mukataa*, an individual tax-farmer who would guarantee to pay the treasury a fixed amount would be granted the right to collect the proceeds generated by a given revenue-source. This amount was calculated to approximate what the state would get in taxes if imperial bureaucrats managed the revenue-source for the treasury. Any revenues generated beyond the agreed-upon amount were the tax farmer's to keep.

All sorts of taxable activities were sold as *mukataa*: agriculture taxes, *cizye* taxes, and customs duties were all potential revenues to tax-farm.

This system worked well for both the treasury and the tax-farmer, at least in the short term. The financial authorities knew they had a guaranteed flow of tax revenues, which acted as a hedge against bad harvests or a drop in trade in a port. The tax-farmer was able to keep any revenues above the amount he guaranteed, and could make large profits by increasing taxation. Clearly, this latter advantage to the tax-farmer was a disadvantage to the taxpayers, and, in the long-term, to the state. Although the Porte did send officials to the provinces to inspect and ensure that tax-farmers were not taking undue profits, there were still excesses in the system.[29] These excesses helped to sap the economic strength of the Ottoman empire during the seventeenth century.

In *ocaklık*, as in a *mukataa*, revenues that would have gone to the treasury were assigned to be paid elsewhere. Instead of a tax-farmer, however, a garrison was allocated the revenues to cover their salaries. In this way, the *ocaklık* was an adaptation of the Ottoman financial practice of *havale*, or assignation.[30] *Havale* was a transfer of revenues to an individual or group for a specific purpose. Whereas *mukataa* was a way for the central treasury to ensure its own income, *havale* was a way for the financial administration to allocate funds without disbursing them from the treasury. Often, the recipient was located near the revenue source, making it easier to collect the assigned amount, which was indeed the responsibility of the recipient. *Havale* was thus designed to be a safe and bureaucratically-efficient method of paying individuals or groups. Transferring funds locally and directly was simpler than collecting the revenues for the treasury, sending it to the capitol, and then re-shipping it to the designated recipient.

When the central treasury did not have the funds directly to pay fortress troops it began to assign revenues directly to the garrison like a *havale* transfer, and this practice came to be called *ocaklık*.[31] Unlike a *havale* transfer, the *ocaklık* assignment was a

permanent allocation of revenues to the garrison. Again, as with *mukataa*, these revenues could come from a variety of sources, including *cizye* and *gümrük* taxes. *Ocaklık* was used to either supplement regular salaries, or to replace direct payments from the treasury to frontier troops. The assignment was made to the garrison as a whole, and they were responsible for collecting and dividing up the revenues themselves.

With the growth of the military in the sixteenth and seventeenth centuries, this alternative to cash payment became common practice.[32] Direct revenue transfers through *ocaklık* helped to ensure that soldiers were paid, thus reducing the potential grievances that could lead men to abandon their posts. It was also a great boon to the often-strapped seventeenth-century Ottoman treasury. *Ocaklık* provided for troops without directly encumbering the central administration's resources, whether the garrison actually received the revenues or not. Because the soldiers were responsible themselves for collection, the administration's responsibility for paying them ended with the assignment of revenues as *ocaklık*. Thus the bureaucrats at the center could clear their books of any necessary payroll expenses by assigning garrisons *ocaklık*, placing the fiscal burden of actual payment on those intended to receive it. *Ocaklık* eased the financial difficulties of the empire either as an alternative method of payment or as a piece of bookkeeping legerdemain.

Rich documentation exists demonstrating how *ocaklık* was used to finance the 1627-28 Ottoman campaigns along the Black Sea frontier, but less is extant for the Hungarian Habsburg region.[33] One of the few documents that has survived is a financial register from 1023 A.H./1614-15 C.E. listing the *mukataa* revenues given to garrisons serving on the frontier.[34] While this document does not use the term *ocaklık*, it is clear that such a procedure is intended. The revenues in this case were the proceeds of the *avarız* extraordinary taxes levied on the local population.

The register both records the amount of the taxes and specifies the recipients, as well as noting the amounts of the soldiers' pay, together with the pay period for which the revenues

were assigned. There is great variation, though, in how the recipients are listed, and who they are. In some cases the entire garrison of fort or *palanka* is listed; in others specific units are named. For example, in the case of Semendire the entire garrison is listed, but elsewhere funds are assigned just to the *azeb*s, *topçu*s, or *martolos* of specified garrisons. Often more than one unit is involved. There are entries such as "*topçuyan* and *azeban* of the *liva* of Alaca Hisar," and "*müstahfizan* and *topçuyan* and *cebeciyan* of the fort of Segedin." Most types of troops are listed, including *kapıkulu* units like *cebeci* and *çavuş*, but no Janissaries are found in this register.

Some of the extant *defter*s clearly state they are records of *ocaklık* revenues for garrison troops. One from 1084 A.H./1673-74 C.E. states that the revenues it enumerates are made *ocaklık* to pay the wages of the Uyvar garrison for the preceding three years.[35] This register thus also serves as evidence of late payments made to frontier troops. The sources of the funds in this case are varied, but most were collected locally. Some revenues came from *mukataa* grants of taxes, such as customs duties, and others from the proceeds of imperial land, *havass-ı hümayun*. Yet more came from *cizye* collection in the province. In is interesting to note that much of the *cizye* revenue is marked as *hesab-ı sülüsan*, the two-thirds payment accounting technique discussed above. Thus this one document reflects several of the Ottoman financial bureau's methods for limiting expenses.

A payroll document from late in the seventeenth century provides more information about the use of *ocaklık* on the Ottoman-Habsburg frontier. This pay register is dated 1110 A.H./1698-99 C.E.[36] The *defter* lists the number of men and their pay for a variety of fortresses and *palanka*s throughout the empire, in both Rumelia and Anatolia. Although similar to other pay records in its layout and content, this *defter* stands out for its explicit reporting of the use of *ocaklık* in lieu of direct payment from the treasury. Beside the records for the total numbers for a *liva* several entries have the note "*ocaklık*" written next to the pay information. This is the case for the *liva*s of Budin, Hersek, and Bosnia—all territories along the Habsburg frontier. In some

cases not only are the totals marked as *ocaklık*, but the note also appears over the individual listings for certain outposts. Unlike the earlier records, however, this document merely shows that these expenditures were to be covered by *ocaklık* funds, but does not outline the sources for those funds. It is not clear here if resources were indeed being allocated, or if *ocaklık* was being used as a bookkeeping gambit to balance the accounts and save the treasury money.

How did troops react when their pay was late in coming from the Treasury or when they were assigned potential revenues from *ocaklık* in lieu of their salaries? One would assume that, like other military men throughout history, these troops would respond to non-payment with mutiny. Such revolts were particular problems in field armies, as mobile troops could easily desert while on campaign, but unhappy sedentary garrison troops were also prone to mutiny.[37] Certainly the Ottomans were no strangers to mutinies by disgruntled soldiers.[38] Janissary revolts were increasingly common in the sixteenth and seventeenth century.

It is interesting to note then that mutinies were not a major problem in the Ottoman garrisons in Hungary, despite the infrequency or lack of pay. According to Brummett's model of Ottoman mutiny, uprisings took place to redress grievances, advance position, and augment wealth and power.[39] One might expect that garrison troops in Hungary would mutiny when their pay was in arrears. Why then didn't these troops revolt?

It is possible that garrison troops in Hungary did not see mutiny as an effective way to advance their cause and get paid. As Brummett points out, mutinies were one stage in a larger negotiation between the state and troops that usually led to some sort of compromise. Ottoman frontier garrison soldiers may not have thought that collecting late salary payments was worth attracting the scrutiny, and potentially harsh attention, of the central administration.

It is likely that these soldiers did not rely on their official salaries for the bulk of their income in any case. As was shown in Chapter One, raids across the frontier for booty and slaves were common, and very lucrative, and a soldier's share of the proceeds

from even one raid could be many times his yearly salary. Thus, while late salary payment from the treasury was a problem, it was not as significant an issue for these garrison troops—serving in peacetime—as for the field army or garrisons in an active war zone who had less access to alternative income from raiding. Non-military activities may also have been effective supplements to, or replacements for, state-paid salaries. As will be discussed below, garrison troops became increasingly involved in the local economy of the frontier region during the seventeenth century.

*Establishing Rules*

In addition to issues of financing frontier defense, the central authorities established regulations for the garrisons. Some of these rules are recorded in the *kanunname*s, or law codes, established for the frontier provinces. A number of law codes have been preserved together with the *tapu tahrir* land survey registers in the Ottoman archives. The details of the *kanunname*s give insight into the Porte's concerns about the behavior and activities of the garrison troops.

Provincial *kanunname*s are mostly directives setting the rates of the various taxes levied on the local population. They do, however, also contain a number of regulations concerning garrison troops. Some of these laws dealt with the *timar* land held by military men stationed along the frontier. As has been shown in Chapter Three, officers were often given *timar* income in addition to their salaries. Among some types of troops, most notably *topçu* and *müstahfiz* units, the regular soldiers also had *timar* income. Two *kanunname*s from the frontier region reaffirm the right of members the garrison to hold *timar*s.[40] Among those troops mentioned with *timar* assignments are *çavuşan* and *müstahfizan,* as well as the *dizdar*, or fortress commander. These same law registers establish that fines collected from the *reaya* farming on these *timar*s should be split between the *timar*-holder and the treasury.

The *kanunname*s detail other rules involving land-holding on the part of the frontier forces. The two codes cited above reaffirm the privacy of land held personally by the *beylerbey* and

other *bey*s in the province.[41] An early seventeenth-century *kanunname* for Uyvar also lists laws affecting taxation of garrison troops' property.[42] The tax in question was the *öşr*, or tithe taken on agricultural produce. It is clear from the law codes that garrison troops owned land along the frontier. For tax purposes this land was considered differently than that of other Muslims who had settled in the region. An *öşr* tax of one-tenth was assessed on the produce of all farmers in the region, Muslim or non-Muslim, including the land held by *martolos* troops, who were exempt from a number of other taxes in exchange for their military service. Produce from land held by the garrison soldiers, however, was not taxed. The *kanunname* called the soldiers *guzat-ı İslam*, or warriors for the faith. Such a usage reflects the continuing importance of a state ideology of *gaza* along the frontier.

Although the law code assessed the *öşr* on all Muslim-owned land on the frontier, there was an exception. The tithe was not taken from Muslims growing fodder for horses used in imperial service.[43] This exemption helped to ensure that the garrison cavalry would be well supplied and thus able to carry out their duties.

Supplying the fort became a major aspect of the local economy and people came from the surrounding region to sell their goods to the garrison. Some even came from Habsburg-controlled areas, as there are a number of laws dealing with trade across the frontier with the *Dar al-Harb*. The forts became marketing centers for a wide variety of products. Animals were brought to the fort to be sold and slaughtered. All types of food, including barley, flour, honey, salt, and vegetables, were sold there as well. Hay and firewood were brought by the cart-load, and lumber was floated downriver as rafts to be sold at Uyvar.

Taxes were assessed so as to promote sales to the fort. The *kanunname* records that if the *gümrük* customs tax on firewood and hay brought by *reaya* to sell to the garrison was a hardship on the producers, it should not be collected.[44] Other taxes were lower if the sale was to the garrison rather than to people who had crossed the border from Habsburg territory. Salt sold to

these outsiders was taxed at a rate of one *kıt'a* per every fifty sold, but only one *akçe* per *kıt'a* sold to the garrison.[45] Leathers sold at the fort were taxed at a rate of five *akçe* per cart-load, but if the buyers were from the *Dar al-Harb* the rate was 120 *akçe* for ox leather and 20 for sheep leather.

The law not only promoted trade at the fort through lower taxes; it provided protection for local industries. Pottery and glassware coming from Habsburg territory and sold at Uyvar were levied at a rate of one *akçe* per fifty *akçe*-worth, but the *kanunname* states that potters established at the fort and its environs were not to be taxed.[46]

The growth of commercial activity at the frontier fortresses led members of the garrisons to become involved in mercantile activity. This tendency was only exacerbated by the central administration's frequent difficulties in allocating pay to garrison troops. When pay was not forthcoming, the garrison turned to alternative means of support. Raiding enemy territory was extremely lucrative, as shown in Chapter One. Participating in trade was another potential source of income for the soldiers.

Evidence of trade by the garrison soldiers can be seen in a payroll *defter* from Kanije dating from the mid-seventeenth century.[47] This document not only records the disbursal of pay for two pay periods, but also notes debts of some of the garrison troops. It appears that when the *defterdar* handed out the soldiers' pay, he also helped to straighten out other financial dealings within the garrison. Some of the debts were loans from other soldiers. Mustafa Halife, a *duacı*, owed 1,100 *akçe* of the 1,710 he collected to various of his comrades.

Although we cannot know what Mustafa was spending his money on, the *defter* shows what some of the other troops were doing with their pay. Many of the men listed in this register have debts noted as "*nemek*," or salt, recorded next to their names. It appears that the garrison troops were involved in the local salt trade. Soldiers were borrowing against their future pay, buying salt from a local saltworks, and trading it. The *defter* records an exact accounting of these transactions. The total amount of salt, measured in *kıt'a*, purchased by each man was recorded, as well as

the price paid. Most salt was purchased at between 30 and 36 *akçe* per *kıt'a*. The soldier's total debt was computed by the *defterdar*, and that amount was deducted from his salary.

As part of the *askeri* military class, garrison troops were exempt from most taxes. The Uyvar *kanunname* records that merchants claiming to be *askeri* were exempt from *gümrük*, but were to be assessed a small tax of one *akçe* per *vukiyye* of honeycomb they brought to sell at the fort.[48] Because of their tax exemptions, garrison troops would have had an advantage over other merchants.

The *kanunname*s show that the central administration was concerned about troops getting involved in the marketplace. Soldiers who became merchants not only excluded revenues from the central treasury, but also became derelict in their military duties. The job of the garrison was to defend the frontier, not ship goods across it. The more the garrison troops got involved in the local economy, the less they were prepared to fight. Such a breakdown in the military readiness of the frontier garrisons was a serious problem for the empire. Thus, laws were issued barring garrison troops from involving themselves in trade.[49]

For example, the *kanunname* of Egypt specifically states that soldiers are to be punished for becoming merchants.[50] In the section governing the *gönüllü* troops, it clearly states that any *gönüllü* who opens a shop in the bazaar will have his salary cut off. Elsewhere it forbids *azeb*s or other troops armed with gunpowder weapons from selling guns or powder to anyone. This latter law worked not only to restrain the activities of garrison troops, but also to control the dissemination of weapons that could be used against the government.

*Issuing Orders*

The *kanunname*s established general rules governing the garrison troops, but these law codes were not the only way that the Porte exerted control over the frontier region. As specific situations developed the central government issued orders to fortress commanders and other local officials. Some of these directives are preserved in the *mühimme* collections in the Ottoman archives.

The *mühimme defter*s are copies, or possibly drafts, of imperial orders issued in the name of the Sultan. As such, they are an excellent source for understanding exactly what issues were important to the central government. Typically the orders recorded in the *mühimme defter*s were addressed to the local officials who were to implement the order. This could be anyone from the *beylerbey* of a sancak or the *kadı* of a village. Often the orders are addressed to several officials who were to work together to accomplish the outlined task. Usually the situation that warranted action is described, and the actions desired by the Porte are mandated.

The *mühimme*s are a rich source of information, but there are limits to what they can provide. Although they record orders sent to many places under Ottoman control, not all regions are equally represented. A survey of the seventeenth-century *mühimme defter*s shows many orders addressed to officials in the area around Istanbul and for Erzurum, for example, but far fewer for other provinces of the empire, including the Hungarian frontier region. The fortresses of Kanije and Uyvar, used here as case studies, are particularly underrepresented. Of the orders issued to these forts, most were addressed to the commanders of the Ottoman campaigns in the region, and not to garrison officials during peacetime. This fact by itself suggests that the central government was more concerned with administering the frontier during periods of open hostilities with the Habsburgs than when the frontier was quieter.

Despite their limitations, the *mühimme* do give us insight into the central administration's concerns along the frontier. Some of the orders involve maximizing the state revenues. One order from the early part of the seventeenth century, addressed to the *beylerbey* of Kanije, requests that the area around the fortress be surveyed to determine which land is imperial *hass* land.[51] Proceeds from these lands went directly to the imperial treasury. A later order also directed to the Kanije *beylerbeyi* asks that he cooperate with the officials sent to complete a *tahrir* land survey of the region.[52] It was such surveys that helped to determine the agricultural taxes collected by the state. Clearly it was important

to the central administration that local officials in the forts be aware of potential state revenues.

The *mühimme* registers also contain orders about military supplies for the frontier forts. One command directs the shipment of cannon and all their necessary accoutrements to Kanije.[53] Several others date from late in the seventeenth century when the *beylerbey* of Kanije also served as the commander of shipping on the Danube (Tuna *kapudan*).[54] These directives ensured that boats and the supplies to maintain them were available at the fort.

In Chapter Two we saw how the highest levels of the government involved themselves with construction of and repairs to fortresses. Some of this concern is echoed in the *mühimme* records, where instructions to expand the fort at Kanije by building storehouses and other buildings are preserved.[55] The order copied into the *mühimme defter* would have taken the form of an imperial directive of the type discussed in that chapter. By combining the information from the *mühimme* and other archival collections, we begin to get a better idea of the procedures through which the Porte administered the frontier. Decisions were made in the imperial council and orders were issued. These orders were both noted in the *mühimme* copies, and were written out and sent to the provincial officials involved. The question of how the central administration was apprised of what was going on in the provinces will be addressed in the next section, which discusses the concerns of the provincial administration.

Most of the orders recorded in the *mühimme* for forts on the Habsburg frontier concern manpower. A number of them concern staffing the garrison at Kanije in the period 1013-14 A.H./1604-05 C.E., a few years after its conquest by the Ottomans, and a time that saw the reallocation of troops at the end of the Long War with the Habsburgs.[56] The central administration responded to the activities of enemy troops in the vicinity of Kanije by sending soldiers from other parts of the frontier to bolster the garrison and defend that part of the frontier. *Gönüllü* troops were assigned to the garrison, as were *martolos* units. Several of the orders also stipulate that money for the garrison

troops be sent along with the reinforcements.[57] Again, we see the state choosing a time when it needs to rely on the frontier forces as an opportunity to pay them. Orders assigning troops to the frontier do not only appear in the early seventeenth-century documents. A *mühimme* from mid-century preserves orders to send troops to the fort at Szigetvar.[58]

A final group of *mühimme* records bears on the discussion of orders to man the frontier garrisons. These records concern Tatar troops active in Hungary in the beginning of the seventeenth century. The Crimean Tatars traditionally served as irregular troops during Ottoman campaigns against the Habsburgs. The Tatars were used to cover Ottoman siege efforts as well as to generally wreak havoc and destabilize the countryside. As such, orders about them would fall outside the peacetime parameters of this study.[59] There are, however, peacetime orders about Tatars active on the frontier. The *mühimme* record a series of orders to the *beylerbey* of Kanije ordering him to allow Tatar soldiers to winter at the fort.[60] These orders mandate that the Crimeans be taken into the fort for the winter, and that their needs be met from the garrison's supplies. Although their presence in Hungary was part of an Ottoman campaign, the winter can be seen as an "off season" for the Tatars, and their tenure at Kanije makes them in some way part of the garrison.

## Concerns of the Provincial Administration

### *A Defterdar's Report*

In order to understand the interests of the provincial frontier administration I will focus on a report written by a *defterdar* serving in Hungary. This man, Mehmed, was assigned to the fortress of Uyvar in 1673 where he was to oversee the finances of the garrison. Unlike the majority of the soldiers there, who were involved with protecting the borders of the empire, Mehmed was more concerned with protecting the financial interests of the imperial treasury. Newly appointed to his post, Mehmed tried hard to impress his superiors in the capital with his diligence.

Upon his arrival in Uyvar, Mehmed looked over the records left by his predecessors with the aim of clearing up any problems found in them. He also made efforts to enhance the treasury by cutting costs and ensuring tax revenues. Although his actions may have pleased his superiors, Mehmed faced some opposition from the garrison officers and local *timar*-holders.

How do we know so much about this man's actions? The information about the new *defterdar*'s activities is preserved in an unusual document that not only provides details about the job of a provincial *defterdar* and the situation at Uyvar but also suggests a method by which Ottoman bureaucrats communicated with the Porte about everyday business. The document in question is an *ocaklık* register from the *Uyvar Hazinesi* (Uyvar Treasury) section of the *Baş Muhasebe Kalemi* (Chief Accounting Office) collection of documents.[61] Appended to the financial records is a list written and signed by Mehmed, *defterdar* of the Uyvar *hazine*, titled "*defter* of necessary imperial orders (*emr-i şerif*) for the fortress of Uyvar."[62] This may be a unique example of such a report from a provincial bureaucrat to the central administration. The list describes various situations at Uyvar requiring action on the part of the central government. In several cases Mehmed reports on actions he had already taken and requests the Sultan's *fermans* to formalize and authorize them retroactively.

This list is unlike any of the formal requests for action by the Sultan which are more familiar. The first difference is its very presence in this register. Ordinarily, financial registers consist only of fiscal information such as payroll lists and records of expenditures. From the layout of this register, however, it is clear that Mehmed skipped a few blank pages after completing his figures on the *ocaklık* for the garrison and then wrote out his list. Formal petitions to the Sultan usually were carefully written and sent separately to Istanbul.

Furthermore, the list contains few of the formulaic invocations and little of the polite language usually found in official requests. Most of the items begin simply with "*benim sultanım*" ("my Sultan"). The statement "it is my Sultan's to command" which ends most entries here reiterates the fact that,

although action may already have been taken by the local *defterdar*, ultimate authority rests with the Sultan and the central government. Occasionally the *defterdar* adds the adjective "*saadetlü*" ("fortunate") to the title Sultan, but several of the items have no invocation at all. The language throughout is informal and simple. In fact, it is unlikely that the Sultan or grand vizier would see a financial register of this type. This list appears to be a communiqué from Mehmed to his superiors in the financial bureaucracy detailing everyday business at the border fortress of Uyvar.

*Cutting Costs*

Much of the list is taken up with Mehmed's attempts to save the treasury money. His diligence in these efforts and his references to irregularities carried out by his predecessors in this post strongly suggest that Mehmed was new to Uyvar. He reports that the *mukataa* for Uyvar had been improperly assigned by order of the *beylerbey* with the cooperation of the former *defterdar* Hasan. He also finds that the tax farmer Kel Ahmed, who held the *mukataa* by order of the *beylerbey*, paid the revenue in debased *akçe* (silver coin), while it had been calculated and received in *guruş* (large silver coin). In looking over the books, Mehmed calculated the true amount as 800,000 *akçe*, and wanted the tax farmer to pay this amount.

While there were various coins in circulation in the Ottoman Empire in this period, the situation was more complex along the western frontier, where a variety of foreign coins were also in use.[63] There were several large European silver coins, called *guruş*, in circulation, worth varying amounts of *akçe*. Although *guruş* were usually valued at 120 *akçe* around this date, the earlier sections of this register also list *guruş* worth 90 *akçe*. The exchange of coins of varying value could be used to the treasury's advantage. The treasury could collect revenue in *guruş* of a certain worth, and then make payments using *akçe* or *guruş* of a lesser worth, resulting in a gain for the treasury. This type of monetary manipulation is found in the earlier section of this *defter*.

Mehmed calls in strong terms for severe action to be taken against Kel Ahmed, who had manipulated the value of the money he collected. He writes that, unless Kel Ahmed pays what he owes, "that man should be summoned to the imperial presence. Until he leaves Uyvar, Uyvar will not be safe. The merit shall be the Sultan's and any sin be mine. In any case the people then will be safe from his hand." The *defterdar* wanted Kel Ahmed to pay the money, presumably in good coin, and suggested that failure to rein in the tax farmer would result in further injustices against the garrison of Uyvar.

Another entry on the list shows Mehmed's further attempts to balance the books in his new post. The new *defterdar* had discovered 500,000 *akçe* owed to the treasury by Ömer Pasha, the former *defterdar* of Budin. Before this money could be paid to the treasury, a certain İbrahim Pasha had taken it, claiming expenses from prior service and giving Ömer Pasha a *temessük*, or bill of debt. The new *defterdar* asked that the central financial administration send a man to get the bill of debt from Ömer Pasha at his new post in Bosnia, and then go to İbrahim Pasha and collect on the debt.

Several of the *defterdar*'s cost-cutting efforts required no *ferman* from the central administration; Mehmed simply informed his superiors where funds might be saved. One area where the *defterdar* saw unnecessary expense was the maintenance of the *menzil*, or post station at Uyvar. Keeping the postal network functioning at full force was particularly important in regions where there was potential for armed conflict, but in peacetime the system could be scaled back and these expenditures saved. Mehmed reports that the forty or fifty thousand *akçe* spent for the post station per year were unnecessary "unless there is a really important matter to be reported to the imperial presence." This not only shows the *defterdar*'s diligence in saving money but also suggests that at this time this part of the Ottoman-Habsburg frontier was believed to be secure enough to cut back on postal expenses. The analysis of garrison size in Chapter Three supports this contention, as these years saw a marked decrease in the size of the garrison at Uyvar.

The lack of major military activity along this portion of the frontier may account for another of Mehmed's cost-cutting measures. He states that 100,000 *akçe* worth of *hil'at* (robes of honor) was spent at Uyvar every year. *Hil'at* were often given out as signs of favor or as bonuses to high military officials. In Mehmed's opinion, "because there are no people [worthy of it] it is a waste of the treasury." Through lack of opportunity the *defterdar* may have felt that the garrison had not distinguished themselves enough to warrant such gifts.

Mehmed also suggests other ways to save the Treasury money. He felt that too much was spent when pashas visited Uyvar. It appears that in addition to demanding a level of comfort beyond the means of the local treasury these visitors also ordered unnecessary repairs to the fort. Mehmed writes: "When pashas come they cause the *defterdar*s to expend furnishings worth 1,000 *guruş*. As there is no customs house here, the treasury is incapable of finding [these funds]."

*Conflict With the Officers*

The *defterdar*'s difficulties with the military were not limited to the expenses surrounding the visits of pashas. Mehmed was often in conflict with the garrison officers and local *timar*-holders. Several of the items in his list are requests for *ferman*s ordering the military to behave properly. As the central government's representative, the *defterdar* was in a precarious position. Although he officially had authority over certain matters, he had to contend with the opposition of powerful local military officials. Given the nature of the *defterdar*'s job, these disputes naturally revolved around money.

Mehmed reports that although the pashas had been assigned revenues from the *mukataa* and *cizye*, they had been collecting an additional scribal fee, called the *kalemiyye*, from the garrison. This fee rightly belonged to the Treasury under the *defterdar*, not the pashas, and the garrison troops were unwilling to pay this fee twice. The situation was tense enough that Mehmed requested a *hatt-ı hümayun*, a hand-written imperial edict, ordering the pashas

not to interfere in matters of imperial revenues, which were the responsibility of the *defterdar*.

There were also disputes over control of government stores. At one point Mehmed observes that the *defterdar*s needed to have the keys to the government storehouses (*miri anbarlar*). Presumably these keys were held by the garrison commander. Furthermore, when the central administration ordered the *defterdar*s to inventory the seed stored in villages, the *timar*-holders did not cooperate. The *timar*-holders had taken seed but refused to say how much. Mehmed, complaining that a full registration was impossible, writes that his only recourse was to register what could be found.

The *timar*-holders not only attempted to prevent the seed they took from being registered, but also tried to keep farmers living in the area unregistered to prevent them from being assigned to the imperial *hass* lands. These unregistered peasants were probably young, unmarried men who had left their home villages in search of land to farm. Mehmed reports that there were many of these men living in villages and *mezraa*,[64] abandoned arable land. Because they were relatively new arrivals they were not listed in the land registers. Mehmed warns that the *alaybey*, representing the *timar*-holders, hid these people from registration to keep fees for himself. If they could be registered as working *hass* land, the revenues they would generate surely could be collected for the central treasury. Faced with such opposition in a situation in which the interests of the local military and financial bureaucracy were again at odds the *defterdar* reported he would register the newly arrived farmers as *hass* and estimate the number of households. Requesting a *ferman* to this effect, he appealed to the central administration to take measures to compel the *timar*-holders to comply with imperial orders.

*Serving the Garrison*

Although this document shows repeated examples of the conflict between local authorities and representatives of the central government over tax collection and revenues, not all of the interactions between the *defterdar* and the garrison were

acrimonious. One of his tasks was to ensure that the fort was well supplied with war material. In his list Mehmed asks for a *ferman* authorizing the purchase and setting the price of iron for the armory. The word "iron" here most probably refers to raw iron, although it was sometimes used for finished gun or cannon barrels. It is important to note that the request both stipulates the price of the iron, and suggests a shipping route. Mehmed writes:

> We had heard that iron at Varad is four *akçe* per *vukiyye*.[65] It is necessary to send 10,000 *vukiyye* of iron to Uyvar. A *ferman* should be sent to the *beylerbey* [of Varad] ordering [this], and we have heard that transport via non-Muslim regions [here Transylvania] is easy.

These details help in gaining an understanding of the economy of the frontier region and also provide information about conditions of commercial traffic and communication between regions of the Empire.

The one area where there was full cooperation between the garrison and the *defterdar* was over questions of payroll. As the fort's financial official, the *defterdar* was responsible for disbursing pay to the troops. Several of the items on the list concern either pay for the garrison or sources of revenue that could be used for that pay. In the case of the 800,000 *akçe* owed the treasury by Kel Ahmed the tax farmer, the *defterdar* needed those funds because he had assigned them to the garrison as *ocaklık*.

*Cizye* revenues were a reliable source of income and thus a common source for *ocaklık*. Their collection was important both to the central administration and to the garrison troops who held *ocaklık* or *mukataa* on those revenues. The Danubian frontier was for the most part inhabited by non-Muslims who were liable for the head tax, so revenues from *cizye* along the border could be substantial.[66] Thus it is not surprising to find that the *defterdar* was interested in getting approval for his actions in collecting this important tax.

Before discussing the details of the *cizye* collection Mehmed informs his superiors that he has sent the *cizye* register, and that the amount calculated in it was calculated using the financial practice of *sülüs sülüsan*, or two-thirds payment. Mehmed then reports that in addition to the *cizye* register he has made an oral report to another (unnamed) Ottoman official. This official may have been the emissary sent by the central administration to bring back the financial records from Uyvar. Together these reports were to serve as explanation for the two-thirds collection. Mehmed then asks his superiors to approve his actions. "When you see this and know why it was done in this manner, an Imperial edict (*ferman-i şerif*) must be sent accordingly," he writes. It is important to note that the *defterdar* was requesting a *ferman* to approve actions he had already taken.

He then spells out the details of his plan. The *defterdar* had decided to designate certain villages and their revenues as belonging to the central treasury. The *cizye*, *ispençe* (a type of personal tax),[67] and *öşr* (tithe) revenues for the remaining villages he assigned directly to the local pashas. The lower rate and the anticipated cooperation of the pashas who would benefit from these taxes, led the *defterdar* to state that if his plan were approved collection would be easy.

Mehmed also asks for a *ferman* ordering that in addition to the *cizye* each taxpayer would pay one "*varabil*" and one board (*tahta*). It is unfortunately not clear what the word "*varabil*" means. The lumber (*tahta*) was probably used as building material. This type of in-kind payment often went to the local *bey*s and *timar*-holders. The *defterdar* asks that this *ferman* be addressed to the *alaybey*, the commander of the *timar*-holders in the *sancak*. This allocation would ensure that the *alaybey* cooperated with the *defterdar* in the collection of these taxes.

The final items on the list concern the estate of the deceased *defterdar* Osman Efendi. Mehmed, the new *defterdar*, suggests that since the deceased had no heir other than a wife, these assets should go to the treasury. Osman Efendi had left almost 400,000 *akçe* in cash which Mehmed allocated to pay salaries, which would save both effort and money for the treasury. Mehmed

hyperbolically overstates the case, writing "if we should not do it that way 5,000,000 [*akçe*] will not suffice." Osman Efendi also left 200 *guruş* in the Budin treasury. Mehmed reports that he sent a claim for the funds to Budin, but asks that the central administration send a *ferman* ordering the transfer should the officials in Budin find pretext not to pay. Besides the cash, Osman Efendi left some property and gardens of which Mehmed wanted the state to take possession. He asks that a strong imperial order, an *emr-i şerif*, be issued approving this dispensation and keeping others from interfering. Mehmed was particularly concerned about interference from the *kadı*s. He writes "The *kadı*s should work for the treasury's interests; this is the only way for this to be done." If a dispute arose over the settlement of the estate and the case came to the *kadı*s, the *defterdar* wanted them to decide in favor of the state. By mentioning this case to the central administration, he hoped to forestall any contrary decision by the *kadı*s. Along with the cash and real property Osman Efendi appears to have held the *mukataa* for Gradişka for the coming year. Mehmed suggests that his superior take the *mukataa* directly for the Treasury. From the proceeds he suggests that the Treasury send 7,000 *guruş* to Uyvar to be paid to the garrison. In addition 56,000 *akçe* of this *mukataa* was still owed by Osman Efendi. Mehmed suggests that after it is collected 3,000 *guruş* go to the public treasury (*beytülmal*) and 53,000 *akçe* to the Uyvar treasury to balance Osman's debt.

The report of Mehmed, the *defterdar* of Uyvar, provides information on many aspects of Ottoman frontier administration from the perspective of the provincial official. Details of how the financial bureaucracy operated, the conflict between the financial bureaucracy and local military officials, and the limits of the central administration's interest and involvement in the details of the garrison's operation are all included here. The variety of actions taken by the *defterdar* underscores the extent to which provincial officials were able to act on their own initiative.[68] Mehmed did not wait for orders from his superiors before taking action. He decided how to save the treasury money, how to allocate revenues, and how to keep the fortress supplied, and

looked to the central administration retroactively to approve his actions. The matter-of-fact style in which the document is written, and its presence as an addendum to a financial report, suggests that this level of autonomy was not unusual in the Ottoman bureaucracy.

The very existence of the list is also important for a better understanding of Ottoman administrative practice. Where more familiar types of requests for government action took the form of elaborately phrased and presented documents, the wording here is simple and direct. Although the points are addressed to the Sultan, the actual recipients of this document evidently were the Uyvar *defterdar*'s superiors in the finance department. This suggestion is supported by the last entry in the list which says "you should take the Gradişka *mukataa*," The "you" here cannot be the Sultan, who would hardly need to take *mukataa* revenues. The addressee must have been a superior financial official at the Porte. This list is, in fact, a unique example of a report from a provincial bureaucrat to his superiors detailing conditions on the frontier and asking for official Sultanic decrees for the matters presented. It sheds light on the actual mechanisms of communication between bureaucrats. This list shows a level of interaction between the center and provinces below that of official petitions to the Porte. That it both reports problems and suggests solutions adds to our understanding of both the work of provincial officials and the interests of the central financial authorities.

It is clear that most of the administrative concerns—at both the imperial and provincial levels—revolved around money. The central authorities had to ensure they spent enough on garrison payrolls to keep the troops reasonably happy and in place. At the same time, they attempted to limit expenditures from the imperial treasury. The focus in this chapter on financial matters was in part dictated by the extant sources. The Ottoman archives are rich in fiscal records, and they have been a mainstay of this study. This emphasis, however, is not just the influence of the sources. The defense of any large state and the effectiveness of its armed forces rely to a great extent on how well financed those efforts

are. The Ottoman Empire was no different, and the importance of fiscal matters to both the central and provincial administration reflects that priority.

# Conclusion

The last years of the seventeenth century were not good ones for the Ottomans along their frontier in Hungary. The mid-century reforms of the Köprülü family of viziers that restored some fiscal strength and reinvigorated the Ottoman military led to new campaigns in the West. The first of these, the 1663-64 Habsburg-Ottoman war led by Köprülüzade Fazıl Ahmed Pasha, had mixed results. Although the Ottomans lost the only major battle of the war at St. Gotthard in August 1664, the Treaty of Vasvar that ended the war left them in a superior position, giving them the newly-captured fortress at Uyvar. Fazıl Ahmed then turned his attention to prosecuting the war with Venice for control of Crete, finally conquering the island in 1669. The Ottomans were also successful against the Polish-Lithuanian Commonwealth in 1672.

Ottoman military success ended, however, when Fazıl Ahmed's successor Kara Mustafa Pasha tried to expand further into Hungary in 1683. His ultimate goal was the Habsburg capital Vienna, which Ottoman forces besieged in July. Although the Ottoman army was one of the largest they had ever gathered for a campaign, there were still not enough men or artillery to take the city quickly, and the siege dragged on into September. By then it was too late for more Ottoman troops or materiel to arrive. It was not, however, too late in the season for a relief

army led by Polish king Jan Sobieski to descend on the Ottoman siege lines on 12 September, routing the army and lifting the siege.

The defeat before Vienna inspired the Habsburgs and their allies to form a new Holy League whose goal was to drive the Ottomans completely out of Hungary. The Ottomans were forced eastward during the campaigns that followed, finally ceding most of their Hungarian territories to the Habsburgs in the 1699 Treaty of Karlowitz that ended the war. The end of the century was also the end of the Ottoman-Habsburg frontier in Hungary.

Living on the Ottoman-Habsburg frontier in the seventeenth century was a complex and often dangerous undertaking for all the inhabitants of the frontier zone, regardless of wealth or status. At the highest level, the Ottoman and Habsburg provincial rulers were also military commanders who led their men in actions against their foes. At the lowest level, the Hungarian peasants were plagued by the depredations of troops of both empires, who raided the villages seeking taxes or booty. Between these social extremes were the garrison troops earning their livings serving in forts on both sides of the border. These men risked their lives defending their forts or raiding enemy territory. The fact that these raids were often more for their own benefit than for purposes of the state did not diminish the dangers.

The seventeenth century has been portrayed by historians as an era of decline for the Ottoman Empire. The language of decline is not unique to modern historians. Even contemporary Ottoman writers complained that the empire was not as strong or healthy as it once was. The criticisms of both groups often focus on the degradation of the Ottoman military. Although recent scholarship provides a more complex understanding of Ottoman history that argues against simple decline, there clearly were transformations in the Ottoman state during the seventeenth century.

This study presents many details of the Ottoman-Habsburg frontier in Hungary that could be used as evidence of some sort of decline, or negative transformation. Lack of funds to pay troops, the shifting of the burden of payment from the state to

the soldiers themselves, disputes between provincial military and bureaucratic officials, the multiplicity of military units with only slightly-varying tasks serving in garrisons, and soldiers more involved in trade than military service are all conditions that could be seen as weakening the ability of the Ottoman empire adequately to defend its frontier.

And, yet, despite these weaknesses, the Ottoman-Habsburg frontier was well defended through most of the seventeenth century. In peacetime—the main temporal focus of this study—there was no substantial shifting of the frontier. Even during the 1663-64 war, when the Ottomans lost major battles, little territory was ceded to the Habsburgs. It took the large-scale campaigns of the Holy League at the century's end to push the Ottomans out of Hungary.

Clearly the Ottoman frontier defense system in the seventeenth century worked. It just didn't work according to the systems described and prescribed by the authors of Ottoman advice literature, whose ideas inform the decline paradigm of recent historiography. This study of the Ottoman-Habsburg frontier presents a description of how the defense system actually operated on the ground, participating in the larger investigation into the nature of the Ottoman transformations of the early modern period. Further research into the other frontiers of the empire, or the same frontier in a later period, is still needed to extend our growing knowledge of Ottoman military practice.

Although I would conclude that the seventeenth-century Ottoman frontier military establishment was equal to that of its counterparts across the frontier, there was a marked decline in effectiveness in the eighteenth and nineteenth centuries. I suggest that the financial and bureaucratic difficulties already present in the seventeenth century developed beyond the empire's ability to cope with them. The costs of raising and supplying the new larger Ottoman armies outstripped the administration's resources, and methods like *ocaklık* or letting the soldiers rely on booty could no longer fill the gap.

Finally, in examining the specific details of the Ottoman-Habsburg frontier in Hungary, or the larger question of frontier

historiography it is easy to lose sight of the human factor. The soldiers serving in the forts of both great empires were men, trying to earn a living and live their lives. The same is true of the peasant farmers and merchants living in the region. The population of this region did form a joint community of sorts. Each individual living on the frontier found himself within a nexus of shifting relationships and interactions. Some linked him to the center of the state to which he owed his allegiance. Others united him with his purported enemy across the frontier. The Ottoman-Habsburg frontier was a socially and economically dynamic zone of transition, where different peoples and states met and interacted, and which was defined by the transitional nature of those interactions.

# Gazetteer

| **Ottoman Name** | **Modern Name** |
|---|---|
| Budin, Budun | Buda |
| Eğri | Eger |
| Estergon | Esztergom |
| İstolni Belgrad | Szekesfehérvár |
| Kanije | Nagykanisza |
| Novigrad | Nógrád |
| Peşte | Pest |
| Segedin | Szeged |
| Semendire | Smederevo |
| Sigetvar | Szigetvár |
| Şimontorna | Simontomya |
| Temeşvar | Timişoara |
| Uyvar | Nove Zámky |
| Yanık | Győr |

# Tables

| Troop Type | Commander | Other Officers |
|---|---|---|
| Anbarcı | Ağa | Kethüda |
| Azeb | Ağa | Kethüda, alemdar, kâtib, bölük başı, reis |
| Çavuş | Kethüda | |
| Cebeci | Ağa | Kethüda, kâtib, çavuş, ser bölük |
| Faris | Ağa | Kethüda, alemdar, çavuş, kâtib, ser oda |
| Gönüllü | Ağa | Kethüda, alemdar, ser bölük |
| Kapudan | Ağa | Kethüda, alemdar, kâtib |
| Martolos | Martolosbaşı | Kethüda, ser-i mie, ser oda |
| Mehter | Mehterbaşı | |
| Müstahfız | Ağa or dizdar | Kethüda, alemdar, kâtib, imam, ser bölük |
| Sekban | Bölükbaşı | Alemdar |
| Topçu | Topçubaşı | Kethüda, alemdar, çavuş, kâtib |
| Yeniçeri | Ağa | Kethüda, alemdar, çavuş, kâtib |

Table 3: Garrsion Troops Command Structure

| **Troop Type** | **Commander** | **Soldier** |
|---|---|---|
| Anbarcı | 15 | 9 |
| Azeb | 35 | 8 |
| Çavuş | 30 | 15 |
| Cebeci | 30 | 9 |
| Faris | 40 | 17 |
| Gönüllü | 70 | 15 |
| Kapudan | 60 | 9 |
| Kâtib | 30 | 15 |
| Martolos | 35 | 8 |
| Mehter | 15 | 13 |
| Müstahfız | 55 | 9 |
| Sekban | 12 | 8 |
| Topçu | 25 | 12 |
| Yeniçeri | 25 | 6 |

Table 4: Average Daily Pay in *Akçe*

# Notes

## Introduction

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17. Information on the *gazavatname* manuscripts can be found in Agah Sırrı Levend *Gazavat-nameler* (Ankara, 1956). See also Vahid Çabuk, *Tiryaki Hasan Paşanın Gazaları ve Kanije Savunması* (İstanbul, 1978); H. Ziya Ersever, *Kanije Savunması ve Tiryaki Hasan Paşa* (Ankara, 1986); and Namık Kemal, *Namık Kemali'in Kanije Muhasarası*, edited by Hakkı Tarık Us (İstanbul, 1941). See also Claire Norton's dissertation from University of Birmingham on the image of the Ottoman victory at Kanije in contemporary and modern literature, "Plural pasts: the role of function and audience in the creation of meaning in Ottoman and modern Turkish accounts of the siege of Nagykanizsa."
18. See Vojtech Kopčan, "Ottoman Narrative Sources to the Uyvar Expedition 1663," *Asian and African Studies*, 7 (1971), 89-100.
19. Kopčan has published a number of other studies about Uyvar. See his "Eyâlet-i Uyvâr," *X. Türk Tarihi Kongresi Kongreye Sunulan Bildiriler* (Ankara, 1993), 4:1735-42. See also the series of articles he wrote with Jozef Blaškovič under the title "Türkische Briefe und Urkunden zur Geschichte des Eyālet Nové Zámky" published in *Asian and African Studies* between 1986 and 1992. See the Bibliography for full citations.

## Chapter One

1. J. R. V. Prescott, *Political Frontiers and Boundaries* (London, 1987), 13-14.
2. The Habsburg *Grenzer* system, established to defend against the Ottomans, is the best example of a march-style organization for the present discussion. See Gunther Rothenburg's two studies, *The Austrian Military Border in Croatia: 1522-1747* (Urbana, 1960) and *The Military Border in Croatia: 1740-1881* (Chicago, 1966).
3. Turner's essay "The Significance of the Frontier in American History" was presented at a gathering of historians at the 1893 Colombian Exposition in Chicago and published the next year in *Annual Report of the American Historical Association for the Year 1893* (Washington, 1894).
4. Frederick Jackson Turner, *Rereading Frederick Jackson Turner: "The Significance of the Frontier in American History and Other Essays*, with commentary by John Mack Faragher (New York, 1994), 33.
5. Indeed, the key critics of Turner—the so-called New Western Historians—are more concerned with his misapprehension of the American West than the issue of the state/non-state interaction. See Patricia Nelson Limerick, especially in her *Legacy of Conquest: The Unbroken Past of the American West* (New York, 1987) and the various contributors' essays in *Trails: Toward a New Western History*, edited by Patricia Nelson Limerick, Clyde A. Milner II, Charles E. Rankin (Lawrence, 1991).
6. Scholars who have expanded on Turner's Thesis and applied it to other regions of the world include Walter Prescott Webb's application of Turner to the entire New World in "Ended: 400 Year Boom—Reflections on the Age of the Frontier," *Harper's Magazine* (October, 1951) excerpted in *Where Cultures Meet. Frontiers in Latin American History*, edited by David J. Weber and Jane M. Rausch (Wilmington, 1994), 51-63. These ideas are more fully articulated in Webb's *The Great Frontier* (Boston, 1952). *The Frontier in Perspective*, edited by Walker D. Wyman and Clifton B. Kroeber (Madison, 1957) collects a number of articles which see Turnerian frontiers throughout the world.
7. For Chinese Eurasian frontiers, see Peter C. Perdue, *China Marches West: The Qing Conquest of Central Eurasia* (Cambridge, 2005). For the other end of the Eurasian steppe, see Michael Khodarkovsky, *Russia's Steppe Frontier: The Making of a Colonial Empire 1500-1800* (Bloomington, 2002). Recent comparative works are the essays in *Frontiers in Question: Eurasian Borderlands, 700-1700*, edited by Daniel Power and Naomi Standen, (New York, 1999) and *Medieval Frontiers: Concepts and Practices* edited by David Abulafia and Nora Berend (Aldershot, 2002).
8. C. B. Fawcett, *Frontiers: a Study in Political Geography* (Oxford, 1918), 21.
9. Fawcett, 24.
10. This type of transitional social and economic zone is what Richard White describes in North America in his *The Middle Ground* (Cambridge, 1991).

11. A paper presented to the Tenth International Congress of the Historical Sciences in Rome in September 1955, and printed in the *Relazioni del X Congresso Internazionale de Scienze Storiche* (Firenze, 1956).
12. Owen Lattimore, *Studies in Frontier History: Collected Papers 1928-1958* (London, 1962), 470.
13. *Rereading Frederick Jackson Turner*, 59.
14. An interesting discussion of New World migration and land ownership is Walter Nugent, "New World Frontiers: Comparisons and Agendas," in David J. Weber and Jane M. Rausch, ed. *Where Cultures Meet. Frontiers in Latin American History* (Wilmington: Scholarly Resources Inc., 1994), 72-85.
15. For an interesting study of these earlier institutions see Michael Bonner, *Aristocratic Violence and Holy War: Studies in the Jihad and the Arab-Byzantine Frontier*, (New Haven, 1996).
16. A recent study of this frontier focusing on the Byzantines is Keith R. Hopwood, "The Byzantine-Turkish Frontier c. 1250-1300," *Acta Viennensia Ottomanica*, (Wien, 1999), 153-62.
17. Cemal Kafadar's *Between Two Worlds: The Construction of the Ottoman State*, (Berkeley, 1995) is a fascinating recent study of the use of *gaza* ideology in Ottoman historiography.
18. M. Fuad Köprülü, *The Origins of the Ottoman Empire*, translated by Gary Leiser, (Albany, 1992), 78.
19. A more complete discussion of this process is found in Halil İnalcık, "The Question of the Emergence of the Ottoman State," *International Journal of Turkish Studies*, 2.2, 71-79; idem., "The Emergence of the Ottomans". *Cambridge History of Islam, Volume 1: The Central Islamic Lands* (Cambridge, 1970), 263-291; idem., "The Rise of the Turkoman Maritime Principalities in Anatolia, Byzantium, and Crusades," *Byzantinische Forschungen*, 9 (1985), 179-217.
20. Köprülü's book was originally published in French in 1935. Wittek's *The Rise of the Ottoman Empire*, (London, 1938) was a response to Köprülü's work. Colin Heywood has written several articles critiquing Wittek, the most recent and salient to the present discussion is "The Frontier in Ottoman History: Old Ideas and New Myths," in *Frontiers in Question*, 228-250.
21. Köprülü, 82.
22. Wittek, 17-18.
23. Wittek, 18.
24. Köprülü, 84.
25. See for example Elizabeth Jeffreys, *Digenis Akritis: The Grottaferrata and Escorail Versions* (Cambridge: Cambridge University Press, 1998); *Menakib-i Gazevat-i Sultan Seyyid Battal Gazi* (Istanbul: Sirket Hayriye-yi Sahafiye, 1870); *The Book of Dede Korkut*, edited by Faruk Sümer, Ahmet Edip Uysal, and Warren S. Walker (Austin: University of Texas Press, 1972).

26. D.BŞM-UYH 17083. For an analysis of this report see Chapter Five as well as Mark L. Stein, "Ottoman Bureaucratic Communication: An Example From Uyvar, 1673," *Turkish Studies Association Bulletin*, 20:1 (1996), 1-15.
27. See *Encyclopaedia of Islam*, Second Edition (*EI*$^2$), s.v. "Mazra'a," 5:959-961, (Halil İnalcık).
28. Halil İnalcık, "The Ottoman Turks and the Crusades 1451-1522" in Kenneth M. Setton, *A History of the Crusades Volume VI: The Impact of the Crusades on Europe* (Madison, 1989), 336.
29. Gustav Bayerle has shown that complaints about border raids were frequently the subject of communications between Habsburg and Ottoman officials. See his *Ottoman Diplomacy in Hungary* (Bloomington, 1972) and *The Hungarian Letters of Ali Pasha of Buda 1604-1616* (Budapest, 1991). Similar complaints are found in many of the letters preserved in the Esterházy family archive and published as *Türkische Schriften aus dem Archive des Palatins Nikolaus Esterházy 1606-1645*, edited by Ludwig Fekete (Budapest, 1932).
30. İsmail Hakkı Uzunçarşılı, *Osmanlı Devleti Teşkilatından Kapukulu Ocakları* (Ankara, 1984), 1:3, 330.
31. See *EI*$^2$, s.v. "Gönüllü," 2:1120-1121, (Halil İnalcık); Uzunçarşılı, *Kapukulu Ocakları*, 1:331.
32. D.BKL 32187, MM 2052, D.BKL 32195.
33. D.BKL 32195.
34. D.BKL 32187.
35. Evliya Çelebi, *Evliya Çelebi Seyahatnamesi*, (İstanbul, 1928), 7:27-38. See also *An Economic and Social History of the Ottoman Empire, 1300-1914*, edited by Halil İnalcık with Donald Quataert, (Cambridge, 1994), 307.
36. *Seyahatname*, 7:27.
37. MM 3645.
38. *Guruş* in this period were usually worth 120 *akçe*. For more on currency see: Halil Sahillioğlu, "Kuruluştan XVII. Asrın Sonlarına Kadar Osmanlı Para Tarihi Üzerinde bir Deneme," unpublished (İstanbul, 1958), and Sahillioğlu, "Bir Asırlık Osmanlı Para Tarihi, 1640-1740," unpublished (İstanbul, 1965).
39. *Seyahatname*, 7:38.
40. Luigi Fernando Marsigli, *Stato militare dell Imperio Ottomanno, incremento e decremento del medesimo*, (The Hague and Amsterdam, 1732), reprinted and edited by M. Kramer and Richard Kreutel, (Graz, 1972).
41. Discussions of the treatment of prisoners and the raising of their ransom make up a good part of the correspondence between the pashas of Buda and Habsburg authorities given in Bayerle, *Ottoman Diplomacy*, and *Hungarian Letters*. For an eighteenth-century episode of ransoming of prisoners, see Osman Ağa of Temeşvar's account of his own ransoming in *Die Autobiographie des Dolmetschers 'Osman Ağa aus Temeschwar* (Cambridge, 1980) or Frederic Hitzel's discussion of this episode, "Osman Ağa, captif

Ottoman dans l'Empire des Habsbourg a la fin du XVIIe siecle," *Turcica* 33 (2001).

42. Peter F. Sugar, "The Ottoman 'Professional Prisoner' on the Western Borders of the Empire in the Sixteenth and Seventeenth Centuries," *Etudes Balkaniques*, 7:2 (1971), 82-91.
43. Sugar, "Professional," 85.
44. What Sugar calls "kila" here is the *kile*, a measure of capacity for grain. Although in 1579 this measure was mandated to be equal to 30 *okka* or *vukiyye* (1 *okka* = approx. 1.282 kg) in Hungary, it actually varied across the province anywhere from 18 to 32 *okka*. See Halil İnalcık, "Introduction to Ottoman Metrology," *Turcica*, 15 (1983), 311-348.
45. Sugar, "Professional," 83.
46. Paul Rycault, *History of the Turkish Empire* (London, 1680), 129.
47. Ferenc Szakály, "The Early Ottoman Period, Including Royal Hungary, 1526-1606" in *A History of Hungary*, Peter F. Sugar, General Editor (Bloomington, 1994), 89. Szakály has written extensively on Hungarian owners of land under Ottoman control. See his "Magyar nemesség a török hódoltságban" [Hungarian Nobles on Occupied Territories under Ottoman Rule], *Szazadok*, v. 126 n. 5-6, 562-633 and *Magyar adóztatás a török hódoltságban* [Hungarian Taxation on Occupied Hungarian Territories] (Budapest, 1981).
48. Bayerle, *Ottoman Diplomacy*, 96.
49. Bayerle, *Ottoman Diplomacy,* 87.
50. Bayerle, *Ottoman Diplomacy*, 71, 74, 78, 90, 131, 168.
51. İnalcık with Quataert, *Economic and Social*, 303-304.
52. Vera Zimányi, "The Hungarian Economy within the Modern World System" in *The Early-Modern World-System in Geographical Perspective*, Hans-Jürgen Nitz, ed. (Stuttgart, 1993), 239.
53. Zimányi, "World System," 242.
54. Katalin Péter, "The Later Ottoman Period and Royal Hungary, 1606-1711" in *A History of Hungary*, Peter F. Sugar, General Editor (Bloomington, 1994), 106.

## Chapter Two

1. The best general works on the development of fortifications are Christopher Duffy's two volume work *Siege Warfare*, published separately *as Siege Warfare: The Fortress in the Early Modern World 1494-1660* (London, 1979, reissued 1996) and *The Fortress in the Age of Vauban and Frederick the Great 1660-1789* (London, 1985) and his *Fire & Stone: The Science of Fortress Warfare 1660-1860* (London, 1996). A very useful overview can also be found in Simon Pepper and Nicholas Adams, *Firearms & Fortifications: Military Architecture and Siege Warfare in Sixteenth-Century Siena* (Chicago, 1986). For the history of artillery, see the classic work by Henry W. L. Hime, *The Origin of Artillery* (London, 1915) or the more recent O. F. G.

Hogg, *Artillery: Its Origin, Heyday and Decline* (Hamden, CT, 1970). Also valuable is Bert S. Hall, *Weapons and Warfare in Renaissance Europe: Gunpowder, Technology, and Tactics* (Baltimore, 1997). The developments in artillery and fortification, and the relationship between them, are part of what has been called the "military revolution." See Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800* (Cambridge, 1996) and *The Military Revolution Debate: Readings on the Military Transformation of Early Modern Europe*, Clifford J. Rogers, ed. (Boulder, 1995).

2. Sebastien le Prestre de Vauban, *A Manual of Siegecraft and Fortification*, translated, with an introduction by George A. Rothrock (Ann Arbor, 1968), 24. This work was originally published sometime between 1667 and 1672 and is a sort of "how-to" book written by the outstanding military engineer.
3. Vauban, 49.
4. Vauban, 49; Duffy, *Fire & Stone*, 138-9, 158-9.
5. Vauban, 43.
6. Vauban, 62-63.
7. Duffy, *Fire & Stone*, 159.
8. Duffy, *Fire & Stone*, 170.
9. This was the size gun advocated by Vauban. See also Duffy, *Fire & Stone*, 169.
10. Luigi Marsigli, *Stato militare dell'Imperio Ottomanno* (reprint Gratz, 1972), 1:133.
11. On the Habsburg side, both Marsigli and Montecuccoli repeatedly referred to experience gained at Candia in their works on the Ottoman military. See Marsigli, *Stato militare*, and Raimondo Montecuccoli, *Discorso della guerra contro il turco* (1664) and *Della Guerra col Turco in Ungheria* (1670), both reprinted in *Le Opere di Raimondo Montecuccoli* (Rome, 1988). Ottoman examples are the *gazaname* texts edited by Lubomyr Hajda, "Two Ottoman Gazānāmes Concerning the Chyhyryn Campaign of 1678" (Ph. D. dissertation, Harvard University, 1984), and Fındıklılı Mehmed Ağa, *Silahtar Tarihi* (İstanbul, 1928).
12. *Encyclopaedia of Islam*, 2nd ed. (*EI*$^2$), s.v. "Hisār," 3:480 (V. J. Parry).
13. Montecuccoli, *Opere*, 525.
14. Montecuccoli, *Opere*, 524.
15. Silahtar Fındıklılı Mehmed Ağa, *Silahtar Tarihi* (İstanbul, 1928), 1:291. Fındıklılı Mehmed Ağa was a participant in many of the campaigns he wrote about, and had access to the field reports for others, thus his history is an excellent source for military matters.
16. Montecuccoli, *Opere*, 524.
17. Montecuccoli, *Opere*, 524.
18. Ottoman narrative sources are full of the exploits of the Tatars on campaign in the West. As examples see *Silahtar Tarihi*; Solakzade Mehmed Hemdemi Çelebi, *Solak-Zade Tarihi*, edited by Vahid Çabuk

(Ankara, 1989); and Evliya Çelebi, *Evliya Çelebi Seyahatnamesi*, (İstanbul, 1928), 10 vols. Further information on Evliya's work, especially the reconstruction of his autograph manuscript and an episodic listing of the contents, is in Robert Dankoff and Klaus Kreiser, *Materialien zu Evliya Çelebi* (Wiesbaden, 1992). See also Marsigli, *Stato militare*, 2:137.

19. Montecuccoli, *Opere*, 508.
20. *Silahtar*, 1:266.
21. Montecuccoli, *Opere*, 217.
22. *Silahtar*, 1:266.
23. Marsigli, *Stato militare*, 2:141.
24. Marsigli, *Stato militare*, 2:140.
25. Marsigli, *Stato militare*, 2:137.
26. Evliya Çelebi, *Seyahatnamesi*, 6:310-11; MS Revan 1457 f 109-10.
27. Marsigli, *Stato militare*, 2:140.
28. Marsigli, *Stato militare*, 2:137.
29. Marsigli, *Stato militare*, 2:141.
30. Montecuccoli, *Opere*, 527.
31. Montecuccoli, *Opere*, 525.
32. Rhoads Murphey, *Ottoman Warfare, 1500-1700* (New Brunswick, 1999), 116.
33. Marsigli, *Stato militare*, 2:138
34. Montecuccoli, *Opere*, 420-21, 525-6
35. Murphey, *Ottoman Warfare*, 49.
36. Murphey, *Ottoman Warfare, 116*.
37. John Peter Valcaren, *A Relation or Diary of the Siege of Vienna* (London, 1684), 89-92 lists the lower number, Jeremias Cacavelas, *The Siege of Vienna By the Turks in 1683*, translated by F.H. Marshall (Cambridge, 1925), 51, the higher. John Stoye, *The Siege of Vienna* (New York, 1965) gives an excellent account of this important siege, drawing mostly from European sources.
38. *EI*$^2$, "Hisār," 3:480
39. Montecuccoli, *Opere*, 219, 236-7, 420
40. Montecuccoli, *Opere*, 525. See also information on campaign incentives in Caroline Finkel, *The Administration of Warfare: The Ottoman Military Campaigns in Hungary, 1593-1606*, (Wien, 1988), 82
41. Valcaren, 92
42. Gábor Ágoston, *Guns for the Sultan: Military Power and the Weapons Industry in the Ottoman Empire* (Cambridge, 2005); See also his "Ottoman Artillery and European Military Technology in the Fifteenth and Seventeenth Centuries," *Acta Orientalia Academiae Scientiarum Hungarica*, XLVII (1994), n. 1-2, 15-48
43. See Evliya Çelebi, *Seyahatnamesi*, 6:313-14; MS Revan 1457 f 111. The etymologies are given in Ágoston, "Ottoman Artillery," 33-34. The "Faule Metze" argument comes from Hans Joachim Kissling, "Baljemez," *Zeitschrift der Deutschen Morganländischen Gesellschaft*, 101 (1951).

The Italian origin of this and many other technical terms, can be found in Henry and Renée Kahane, Andreas Tietze, *The Lingua Franca in the Levant* (Urbana, 1958).

44. *EI*$^2$, s.v. "Bārūd," 1:1062 (V. J. Parry); Silahtar, 2:47; Hajda, 85.
45. Ágoston, "Ottoman Artillery," 34. The okka was equal to approximately 1.282 kg. For ease of comparison to European guns one can consider 1 okka = approx. 2.82 lb. For more on weights see Halil İnalcık, "Introduction to Ottoman Metrology," *Turcica*, 15 (1983), 311-348.
46. *EI*$^2$, "Bārūd," 1062.
47. Ágoston, "Ottoman Artillery," 34
48. Montecuccoli, *Opere*, 236, 527
49. *EI*$^2$, "Bārūd". See also Halil İnalcık, "Review of David Ayalon, Gunpowder and Firearms in the Mamluk Kingdom," *Belleten* XXI (1957), 501-12 and Djurdjica Petrović, "Fire-arms in the Balkans on the Eve and After the Ottoman Conquest of the Fourteenth and Fifteenth Centuries," *War, Technology and Society in the Middle East*, ed. V. J. Parry and M. E. Yapp (London, 1975), 164-94 for the role of European experts in the development of artillery in the Ottoman Empire
50. Ágoston, "Ottoman Artillery," 37-8; *EI*$^2$, "Bārūd," 1062.
51. Ágoston makes a similar argument, *Guns*, 75.
52. Ágoston, "Ottoman Artillery," 36-7; *EI*$^2$, "Bārūd," 1063.
53. Ágoston, *Guns*, 81; Ágoston, "Ottoman Artillery," 41.
54. Ágoston, "Ottoman Artillery," 41; *Silahtar*, 1:300, 2:46-7.
55. Ágoston, "Ottoman Artillery," 42; Ágoston, *Guns*, 87-88.
56. Murphey, *Ottoman Warfare*, 110.
57. Ágoston, "Ottoman Artillery," 40-1; Ágoston, *Guns*, 83; *EI*$^2$, "Bārūd," 1063.
58. *EI*$^2$, "Bārūd," 1063.
59. *Silahtar*, 2:46-7. Ágoston lists *şahi* as a separate type of small cannon.
60. Evliya Çelebi, *Seyahatnamesi*, 5:411; Topkapı Sarayı Library MS Bağdat 307, f 123.
61. *Silahtar*, 1:266.
62. *EI*$^2$, "Bārūd,"; *EI*$^2$, "Hisār"; Ágoston, *Guns*, 67-73.
63. See Chapter Three for more on these troops.
64. Marsigli, , *Stato militare*, 1:85, 2:37.
65. For the *lağımcıyan* see Chapter Three.
66. Marsigli, *Stato militare*, 2:37.
67. Marsigli, *Stato militare*, 2:141; Evliya, *Seyahatnamesi*, 6:539 or Topkapı Sarayı Library MS Revan 1457, f 183.
68. *EI*$^2$, "Hisār," 479; Marsigli, *Stato militare*, 2:38.
69. Montecuccoli, *Opere*, 525.
70. Marsigli, *Stato militare*, 2:142.
71. Montecuccoli, *Opere*, 235, 526.
72. In this section I focus on military equipment, and not provisions for the troops. For information on provisions during campaigns, see Finkel,

*Administration*; Rhoads Murphey, "The Functioning of the Ottoman Army under Murad IV" (Ph. D. dissertation, University of Chicago, 1979); Bogdan Murgescu, "The Ottoman Military Demand and the Romanian Market. A Case Study: 1672," *Revue des Etudes Sud-Est-Europennes* 25:4 (1987), 305-13.

73. Valcaren 107-8; Cacavelas, 139-41.
74. Gábor Ágoston, "Gunpowder for the Sultan's Army," *Turcica* 25 (1993) 92-3 The best study of the Ottoman gunpowder industry is Ágoston, *Guns*.
75. *EI*$^2$, "Hisār," 478.
76. The article "Hisār" in the *EI*$^2$ is entirely concerned with Ottoman siegecraft and says nothing about Ottoman fortifications.
77. The Topkapı Sarayı Library contains several translations of Vauban's work on sieges and mining, but these date from the late eighteenth century. See Ms. Hazine 614 "Darben ve def'an muhasara ve muharese-i kila' ve husun;" Ms. Hazine 616 "Tercüme-i risale-i fenn-i lağm;" and Ms. Hazine 629 "Fenn-i lağm risalesi."
78. *Silahtar*, 168-9.
79. Murphey, *Ottoman Warfare*, 111.
80. Montecuccoli, *Opere*, 219.
81. Montecuccoli, *Opere*, 524.
82. Duffy, *Siege Warfare*, 215. A good description of a *palanka* is Evliya's description of Ciğer-delen in his *Seyahatnamesi*, 6: 279; MS Revan 1457 f 99.
83. Murphey, *Ottoman Warfare*, 113.
84. *Silahtar*, 1:292.
85. A study of the reconstruction of a fortress that makes great use of the available archival records is Rhoads Murphey "The Construction of a Fortress at Mosul in 1631: A Case Study of an Important Facet of Ottoman Military Expenditure," in *Social and Economic History of Turkey (1071-1920),* ed. Osman Okyar and Halil İnalcık (Ankara, 1980), 163-77.
86. D.BŞM-UYH 17083.
87. MM 1370
88. Topkapı Sarayı Arşivleri (TKA) E 7216; TKA E2445/131.
89. MM 158.
90. Similar attention to resources and supplies was made in orders for repairs to Mosul. See Murphey, "Construction."
91. E 7216 is dated 7 Şevval 1096, E 2445/131 Cemaziyel'ahır 1096.
92. TKA E 895/51.
93. Hungarian Esztergom.
94. Also know as Szekesfehérvar, or Stuhlweissenburg.
95. Pécs.
96. Szeged.
97. MM 1370.

98. Workers at Mosul were also recruited by *kaza*. See Murphey, "Construction."
99. MM 5158; *Ottoman Garrisons on the Middle Danube. Based on Austrian National Library MS MXT 562*, transcribed and translated by Asparuch Velkov and Evgeniy Radushev. Introduction by Strashimir Dimitrov. (Budapest, 1996).
100. Listed as *haddad başı* and *çavuş-i haddad*, respectively.
101. Âsire.
102. *Şendere tahtası.*
103. *Bahşiş*.
104. Some brief comments on the cost of fortress supplies in the sixteenth century are found in Gábor Ágoston, "The Costs of The Ottoman Fortress-System in Hungary in the Sixteenth and Seventeenth Centuries," *Ottomans, Habsburgs, and Hungarians in Central Europe*, edited by Géza David and Pál Fodor (Leiden, 2000), 195-228.
105. TKA D 5365. Found in L. Fekete, *Die Siyaqat-Schrift in der Türkischen Fiananzverwaltung* (Budapest: Akadémiai Kiadó, 1955), 1:692-699, 2:plate 81.
106. TKA D 6353, analyzed in A. Z. Hertz, "Armament and Supply Inventory of Ottoman Ada Kale, 1753," *Archivum Ottomanicum*, 4 (1972), 95-171.
107. Also of use is V. J. Parry, "Materials of War in the Ottoman Empire," in *Studies in the Economic History of the Middle East*, edited by M. A. Cook (Oxford, 1970), 219-29.
108. Kemal Kepeci Tesnifi (KK) 4738.
109. *Keman-i istanbul*, *keman-i tatari*, *keman-i çağa*: D 5365; KK 4738.
110. *Tir-i tatari*, *tir-i misri*, *tir-i münakkaş*: KK 4738.
111. *Balta-i neccari*, *balta- hataba*: D6353.
112. KK 4738.
113. D 5365; D 6353.
114. Fekete, *Siyaqat*, 1:693.
115. *Kama*, *deşne*.
116. *Kılıç*.
117. *Kûpâl.*
118. *Harbe*, *nize*, and *mizrak*, respectively.
119. For overall Ottoman gunpowder production, see Ágoston, "Gunpowder;" Parry "Materials;" *EI*$^2$, "Bārūd." For production specifically in Hungary see Gábor Ágoston, "Ottoman Gunpowder Production in Hungary in the Sixteenth Century: The *Baruthane* of Buda," *Hungarian-Ottoman Military and Diplomatic Relations in the Age of Süleyman the Magnificent*, edited by Géza Dávid and Pál Fodor (Budapest, 1994), 149-60.
120. Ágoston "Gunpowder," 79.
121. D 5635.
122. KK 4738.
123. D 6353.
124. *Kömür*, *güherçile*, *kükürd.*

125. It only appears in D 5365, and the quantity is listed merely as "*bir miktar*."
126. Ágoston, "Gunpowder," 83.
127. MM 9841.
128. Ágoston, "Gunpowder," 85; Parry, "Materials," 221-22.
129. Ágoston, "Ottoman Artillery," 45.
130. *Silahtar*, 1:293.
131. D 5365.
132. *Havayı top*.
133. KK 4738.
134. D 6353.
135. D 6353.
136. MM 9841.
137. *Fitil* or *penbe fitil*, KK 4738; D 5365.
138. KK 4738.
139. *Tüfenk*, or *silah-i tüfenk*.
140. D 5365.
141. It is possible the listing by weight, *kantar*, was a scribal error, and the *kâtib* intended to write *kit'a*, or piece.
142. D 6353.
143. KK 4738; D 6353.
144. D 5365.
145. Parry, "Materials," 223.
146. *Tolga*, *kalkan*, and *kolçak*, respectively. D 5365.
147. D 5365
148. KK 4738.
149. D 5365; D 6353.
150. Parry, "Materials," 220-21. For camels, see the illustrations in Marsigli, *stato militare*.
151. KK 4738.
152. Saddles (*kaltak*), KK 4738; stirrups (*üzengi*), D 6353
153. *Nal-i esp* and *nal-i ester*, KK 4738.
154. Most common terms used for hammers in the inventories were *çekiç* and *varya*. KK 4738; D 6353.
155. *Çiv, mıh*, *mismar*. KK 4738; D 5365; D 6353.
156. KK 4738.
157. *Keser*. KK 4738; D 6353.
158. KK 4738; D 5365.
159. *Kürek*. KK 4738; D 5365; D 6353.
160. KK 4738; D 5365.
161. *Garar*. KK 4738; D 6353.
162. *Küskü*. KK 4738; D 5365; D 6353.
163. Anvil *örs*; bellows *körük*. D 5365; D 6353.
164. Iron *ahen* or *demir*; steel *çelik*. KK 4738; D 5365; D 6353.
165. D 5365; D 6353.
166. KK 4738.

167. D 5365.
168. Tar *katran*; pitch *zift*. KK 4738; D 5365; D 6353.
169. *Sakız*. KK 4738; D 5365; D 6353.
170. KK 4738; D 6353.
171. Felt *keçe*. KK 4738.
172. Hemp *maslik*; cotton *penbe*. KK 4738; D 5365; D 6353.
173. *Revgan*. KK 4738; D 6353.
174. D 6353.
175. KK 4738; D 5365.
176. Tent *çadır*, waxed tarpaulin *muşemma-ı bal*. KK 4738; D 6353.
177. KK 4738; D 5365; D 6353.
178. KK 4738; D 6353.
179. D 5635.

## Chapter Three

1. İsmail Hakkı Uzunçarşılı, *Osmanlı Devleti Teşkilatından Kapukulu Ocakları* (Ankara, 1984) is of course the most complete modern study of the Janissary institution. See also; *Encyclopaedia of Islam*, 1st ed., s.v. "Janissaries," 4:572-574 (Cl. Huart); *İslam Ansiklopedisi* (*İA*), s.v. "Yeniçeriler," 13:385-395 (Mücteba İlgürel) for general overviews.
2. MM 6596; MM 5996.
3. D.BKL 32187.
4. MM 6955; MM 2052; MM 7161.
5. MM 3731; MM 16368; D.YNÇ 33718; D.YNÇ 33980; MM 16742; MM 16761.
6. Marsigli reproduces the standards and emblems in his *Stato militare*, illustrations following 1:62. Luigi Marsigli, *Stato militare dell'Imperio Ottomanno* (reprint Gratz, 1972).
7. MM 116; MM 16398; D.YNÇ 33718; MM 7474; MM 16087; D.YNÇ33954.
8. Both occurrences are from Kanije. MM 16398 lists a Janissary *cemaat* led by a *çavuş*, and D.YNÇ 33718 lists a *bölük* led by a *kâtib*.
9. This concurs with Uzunçarşılı's determination that a Janissary commander earned 24 *akçe* per day, *Kapukulu Ocakları*, 1:156.
10. MM 5538; MM 6705; D.YNÇ 33718; MM 6557; D.YNÇ 33954; MM 5997.
11. D.YNÇ 33718; MM 5979.
12. Uzunçarşılı, *Kapukulu Ocakları*, 1:412-13.
13. MM 16368; MM 116; MM 16395.
14. MM 3731; MM 16395; D.YNÇ 33954; MM 5979; MM 16742.
15. MM 3731; MM 116; MM 16395.
16. MM 3731; MM 16368; D.BKL 32196; MM 7089; D.BKL 32187.
17. MM 3731; MM 116; MM 7171; MM 6126.
18. MM 3731; MM 16368; MM 116.

19. This compares favorably with Janissary pay rates during the Long War calculated at 5.5-7 *akçe* by Caroline Finkel in her *The Administration of Warfare: The Ottoman Military Campaigns in Hungary, 1593-1606*, (Wien, 1988), 76-77.
20. This was called *kemanbaha* or *tirkeşbaha*. See Finkel, *Administration*, 79.
21. Ottoman payrolls were allocated by quarters, each composed of three months of the Islamic year. Each quarter was referred to by a word abbreviated from the names of the months that comprised it. These quarters were *masar* (Muharrem, Safer, Rebiülevvel), *recec* (Rebiülahir, Cumadiyül'evvel, Cumadiül'ahir), *reşen* (Receb, Şaban, Ramazan), and *leẕeẕ* (Şevval, Zilkade, Zilhicce).
22. MM 3731; MM 6705; D.YNÇ 33718; MM 6389; D.YNÇ 33731.
23. MM 6705.
24. MM 6596.
25. MM 6955.
26. MM 7161.
27. MM 6557; MM 5996.
28. MM 5979.
29. MM 1607.
30. MM 1607.
31. MM 16694.
32. D.YNÇ 33954; MM 16721.
33. D.YNÇ 33980.
34. MM 16742.
35. MM 16761.
36. D.YNÇ 33980; MM 16742; MM 16761.
37. MM 3731.
38. MM 3731.
39. MM 5538.
40. MM 116.
41. MM 16398; MM 16395; MM 116.
42. MM 7230.
43. MM 7230.
44. MM 7230; D.YNÇ 33718.
45. MM 7474.
46. MM 6730.
47. MM 7373.
48. MM 6933; MM 7162; MM 7003.
49. MM 16606; MM 6824.
50. MM 16749.
51. MM 1726.
52. MM1726.
53. MM 16769.
54. MM 3731.
55. MM 16395; MM 116.

56. MM 6730; MM 7364.
57. MM 6933; MM 7162; MM 7003; MM 16606; MM 6790; MM 6824; MM 6929.
58. Halil İnalcık, "The Rise of the Turkoman Maritime Principalities in Anatolia, Byzantium, and Crusades," *Byzantinische Forschungen*, 9 (1985), 209; *Encyclopaedia of Islam*, Second edition (*EI²*), s.v. "'Azab," 1:807 (H. Bowen); *İA*, s.v. "Azab," 2:82 (M. Fuad Köprülü, İsmail Hakkı Uzunçarşılı).
59. Halil İnalcık, "The Ottoman Turks and the Crusades 1329-1451" in Kenneth M. Setton, *A History of the Crusades Volume VI: The Impact of the Crusades on Europe* (Madison, 1989), 6:226.
60. *EI²*, s.v. "Gelibolu," 2:985 (Halil İnalcık).
61. *İA*, 82; Mehmet Zeki Pakalın, *Osmanlı Tarih Deyimleri ve Terimleri Sözlüğü* (İstanbul, 1983), 1:131.
62. *EI²*, "'Azab," 2:807; *İA*, "Azab," 2:82.
63. Marsigli, *Stato militare*, 1:83. The others, according to Marsigli, were *hisar eri*, *sekban*, *lağımcı*, and *müsellem*.
64. Klára Hegyi, "The Ottoman Military Force in Hungary," in *Hungarian-Ottoman Military and Diplomatic Relations in the Age of Süleyman the Magnificent*, ed. Géza Dávid and Pál Fodor (Budapest, 1994), 136.
65. Pakalın, 1:129.
66. Pakalın, 1:129; *İA*, "Azab," 2:83.
67. *Azab*s during the *beylik* period wore the red *börk* to differentiate them from the immediate retinue of the bey, who wore white *börk*s. See İnalcık, "Maritime Principalities," 209.
68. Uzunçarşılı, *Kapukulu Ocakları*, 1:374; *İA*, 2:83.
69. *Kanunname-i Al-i Osman* also know as the *Süleyman Kanunnamesi*, edited by Mehmet Arif, supplement to *Tarih-i Osmani Encümeni Mecmuası*, (İstanbul, 1329 [1911]), 59-61.
70. *İA*, "Azab," 2:82.
71. *EI²*, "'Azab," 1:807; *İA*, "Azab," 2:83.
72. "Mısır Kanunnâmesi" in Ömer Lütfi Barkan, *XV ve XVIinci Asırlarda Osmanlı İmparatorluğunda Ziraî Ekonominin Hukukî ve Malî Esasları* (İstanbul, 1943) 358.
73. Marsigli, *Stato militare*, 1:84; Pakalın, 1:131.
74. Pakalın, 1:130; *İA*, "Azab," 2:83; MM 5820; MM 7208. See also the documents in Claudia Römer, *Osmanische Festungsbesatzungen in Ungarn zur Zeit Murads III*, (Wien, 1995).
75. Barkan, "Mısır Kanunnâmesi," 358.
76. Pakalın, 1:130; *İA*, "Azab," 2:83.
77. MM 5820; MM 7208. Similar numbers served in Hungarian forts in the sixteenth century. See Römer, 27-28.
78. Barkan, "Mısır Kanunnâmesi," 358.
79. MM 5820; MM 7208; MM 2843; MM 2113; MM 2052; D.BKL 32187.

80. TT 658; TT 1044. See also Gyula Káldy-Nagy, *Kanuni Devri Budin Tahrir Defteri (1546-1562)* (Ankara, 1971).
81. Barkan, "Mısır Kanunnâmesi," 358.
82. Römer, 27.
83. Finkel, *Administration*, 87.
84. *EI*$^2$, "'Azab," 1:807; *İA*, "Azab," 2:83.
85. MM 5158
86. *Ottoman Garrisons on the Middle Danube. Based on Austrian National Library MS MXT 562*, transcribed and translated by Asparuch Velkov and Evgeniy Radushev. Introduction by Strashimir Dimitrov. (Budapest, 1996).
87. MM 5820; MM 7208; MM 2113; MM 4457; MM 2846; MM 3645.
88. MM 2113; MM 7162; MM 4457; MM 7003; MM 16606; MM 2846; MM 6824; MM 6790; MM 3645.
89. MM 2113; MM 4457; MM 2846; MM 3645.
90. D.BKL 32187; MM 2052; D.BKL 32195.
91. D.BKL 32187; MM 2052; D.BKL 32195.
92. Uzunçarşılı, *Kapukulu Ocakları*, 1:3.
93. Pakalın, 1:589; Lajos Fekete, *Die Siyāqat-Schrift in der Türkischen Finanzverwaltung* (Budapest, 1955), 97; Hegyi, "Ottoman Military," 137.
94. MM 2564 lists a unit of "*beşluyan süvariyan*" who earned an average of 11 *akçe* each.
95. For example see MM 5158; MM 4654; MM 16001; MM 5820.
96. *MS MXT 562*, 31, 60; MM 16404; MM 5820; D.BKL 32195.
97. Barkan, "Mısır Kanunnâmesi," 356; D.BKL 32195.
98. Barkan, "Mısır Kanunnâmesi," 357; *MS MXT 562*; MM 5820.
99. D.BLK32195.
100. MM 5820; MM 7208; MM 2113; MM 3645; MM 2052; MM 2564.
101. TT 1044.
102. MM 5820; MM 7208; MM 4457; MM 2846. Salaries for all *farisan* were slightly lower in the sixteenth century. See Römer, 29 and Finkel, *Administration*, 87.
103. MM 2052; D.BKL 32195.
104. Römer, 30.
105. MM 5158.
106. D.BKL 32187.
107. D.BKL 32195.
108. MM 16404; MM 5820; MM 7208; MM 2113; MM 4457; MM 2846; MM 3645.
109. MM 7230; MM 6145; MM 7474; MM 7162; MM 7234; MM 16606; MM 6790.
110. For the introduction of gunpowder weapons in the Ottoman Empire see Paul Wittek, "The Earliest References to the Use of Firearms by the Ottomans," in David Ayalon, *Gunpowder and Firearms in the Mamluk Kingdom* (London, 1956), appendix ii, 141-44; Halil İnalcık provided earlier

dates and further information to Wittek in his review of Ayalon's book, *Belleten* XXI, 501-12.

111. Uzunçarşılı, *Kapukulu Ocakları*, 2:37. See also *EI*$^2$, s.v. "Bārūd" part iv. The Ottoman Empire, 1:1061-62 (V. J. Parry).
112. See Gábor Ágoston, "Ottoman Gunpowder Production in Hungary in the Sixteenth Century: the Baruthane of Buda," in *Hungarian-Ottoman Military and Diplomatic Relations in the Age of Süleyman the Magnificent*, ed. Géza David and Pál Fodor (Budapest, 1994), 149-59. See also Ágoston's "Gunpowder for the Sultan's Army: New Sources on the Supply of Gunpowder to the Ottoman Army in the Hungarian Campaigns of the Sixteenth and Seventeenth Centuries," *Turcica* 25 (1993) 75-96.
113. Uzunçarşılı, *Kapukulu Ocakları*, 2:52-53.
114. Uzunçarşılı, *Kapukulu Ocakları*, 2:52.
115. MM 16404; MM 5820; D.BKL 32195.
116. MM 16404; MM 2113; D.BKL 32187.
117. MM 16404.
118. MM 5820; MM 7208; MM 4457; MM 2052; D.BKL 32195.
119. TT 679; TT 658.
120. TT 679.
121. MM 6805; MM 6827; MM 6804; MM 16404.
122. MM 7208; MM 2113; MM 4457; MM 3645.
123. MM 7239.
124. D.BKL 32187
125. MM 9657.
126. MM 7239.
127. Uzunçarşılı, *Kapukulu Ocakları*, 2:95-113; *EI*$^2$, "Bārūd", 1:1061-62.
128. Marsigli provides interesting illustrations of guns being carried in this manner in his *Stato militare*.
129. MM 16318; MM 6696; MM 6957.
130. Uzunçarşılı, *Kapukulu Ocakları*, 2:3-31 remains the best description of the *cebeci*. See also *EI*$^2$, s.v. "Djebedji," Supplement, 269 (eds.); *İA*, s.v. "Cebeci," 3:35-36 (İsmail Hakkı Uzunçarşılı); Mehmet Zeki Pakalın, *Osmanlı Tarih Deyimleri ve Terimleri Sözlüğü* (İstanbul, 1983), 1:262.
131. Uzunçarşılı, *Kapukulu Ocakları*, 2:8, 19.
132. MM 16404; MM 5820; D.BKL 32195.
133. D.BKL 32195.
134. MM 16404; MM 5820; MM 7208; MM 2113; MM 4457; MM 2846; MM 3645; MM 2052; D.BKL 32195.
135. Finkel cites pay of only 4-5 *akçe* earlier in the century. *Adminsitration*, 78.
136. TT 658.
137. Uzunçarşılı, *Kapukulu Ocakları*, 2:7.
138. D.BKL 32187; MM 2052.
139. Mühimme 78:350, cited in Uzunçarşılı, *Kapukulu Ocakları*, 2:12.
140. MM 2113; MM 4457; MM 2846; MM 3645.
141. MM 5158; MM 6804; D.BKL 32187.

142. MM 6805; MM 6827.
143. MM 6961; D.BKL 32195.
144. D.BŞM-UYH 17083.
145. MM 5820; MM 2113; MM 4457; MM 2846; MM 3645.
146. MM 5820; MM 2113; MM 4457; MM 2846; MM 3645.
147. See *İA*, s.v. "Çavuş," 3:362-69 (Mehmet Fuat Köprülü) for an extensive discussion of the etymology and development of the term. See also Mehmet Zeki Pakalın, *Osmanlı Tarih Deyimleri ve Terimleri Sözlüğü* (İstanbul, 1983), 1:332-36; and *EI*$^2$, s.v. "Čā'ūsh," 3:16 (R. Mantran).
148. *EI*$^2$, "Čā'ūsh," 3:16.
149. *İA*, "Çavuş," 3:367.
150. *İA*, "Çavuş," 3:367.
151. *EI*$^2$, "Čā'ūsh," 3:16.; *İA*, "Çavuş," 3:367.
152. *İA*, "Çavuş," 3:367.
153. See Uzunçarşılı, *Kapukulu Ocakları* for more on *çavuş*es in *kapıkulu* units.
154. *İA*, "Çavuş," 3:367-68.
155. MM 6705; MM 7420; MM 6319; MM 5979.
156. MM 16404; MM 5820; MM 6596; D.BKL 32187.
157. D.BKL 32187; MM 2052.
158. D.BKL 32187.
159. MM 5820; MM 7208; MM 2113; MM 2846; MM 3645; D.BKL 32195.
160. MM 2846; MM 3645; D.BKL 32195.
161. MM 16404; MM 5820; MM 6596; D.BKL 32187; MM 7208; MM 2113; MM 2846; MM 3645.
162. D.BKL 32195; MM 5538; MM 16368.
163. D.BKL 32196.
164. MM 7208; D.BKL 32195.
165. MM 116; MM 16395. See also Uzunçarşılı, *Kapukulu Ocakları*, 1:386-9.
166. D.BKL 32187; MM 2125; D.BKL 32195.
167. D.BKL 32187.
168. D.BKL 32187; MM 2152.
169. D.BKL 32195.
170. D.BKL 32187; MM 2125; D.BKL 32195.
171. D.BKL 32187.
172. James W. Redhouse, *A Turkish and English Lexicon* (İstanbul, 1978).
173. Hegyi, "Ottoman Military Force," 136.
174. Dimitrov, "Introduction," *MS MXT 562*, 15.
175. Marsigli, *Stato militare* 1:84-5; Uzunçarşılı, *Kapukulu Ocakları*, 1:3-4, 319; Pakalın 1:343, 3:634.
176. Marsigli, *Stato militare* 1:84-5.
177. Uzunçarşılı, *Kapukulu Ocakları*, 1:3-4.
178. Barkan, "Mısır Kanunnâmesi," 357.
179. MM 2052; D.BKL 32195.
180. Dimitrov, "Introduction," *MS MXT 562*, 15; Barkan, "Mısır Kanunnâmesi," 357; Uzunçarşılı, *Kapukulu Ocakları*, 1:4.

181. Marsigli especially underscores their relationship to the *topçu* troops, *Stato militare* 1:84-5; Uzunçarşılı, *Kapukulu Ocakları*, 1:843.
182. Dimitrov, "Introduction," *MS MXT 562*, 15
183. TT 679; TT 658.
184. TT 679.
185. TT 679.
186. MM 16404; MM 5820; MM 4457; MM 2846; D.BKL 32187; D.BKL 32195.
187. MM 5820; MM 7208; MM 2113, MM 3645, D.BKL 32195.
188. D.BKL 32195.
189. MM 16404; MM 5820; MM 2152;D.BKL 32195. These rates are slightly higher than those of the sixteenth century cited in Finkel, *Administration*, 87.
190. MM 16404; MM 5820; MM 7208; MM 2113; MM 4457; MM 2846; MM 3645.
191. MM 16404.
192. D.BKL 32187; MM 2152.
193. D.BKL 32195.
194. D.BKL 32195.
195. Halil İnalcık, "Stefan Duşan'dan Osmanlı İmparatorluğuna XV. Asırda Rumeli'de Hıristiyan Sipahiler ve Menşeleri," in *60. Doğum Yılı Münasebetiyle Fuad Köprülü Armağanı* (İstanbul, 1953) 207-248.
196. *EI*$^2$, s.v. "Martolos," 6:613 (W. J. Griswold); *İA*, s.v. "Martolos," 7:341 (Robert Anhegger); Idem, "Martoloslar Hakkında," *Türkiyat Mecmuası*, 7-8 (1940-42), 284-85.
197. The circumstances of how this term appeared and developed in the Ottoman and Greek contexts bear further study. My thanks to Walter Kaegi for bringing this absence in the Greek sources to my attention. Kaegi suggests it may be significant that no example of the term appears in Emmanouel Kriaras' exhaustive multi-volume *Lexiko tes mesaionikes Hellenikes demodous grammateias 1100-1669* (Thessalonkie, 1968-). The term in the nineteenth century context is outlined in K. E. Fleming, "Armatoli," in *Encyclopedia of Greece and the Hellenic Tradition*, edited by Graham Speake (London, 2000), 169-70. See also Apostolos E. Vakalopoulos, *The Origins of the Greek Nation: The Byzantine Period 1204-1461*, (New Brunswick, 1970), 157-60.
198. *İA*, "Martolos," 7:342; Anhegger, 285-86.
199. İnalcık, "Stefan Duşan," 222-244; Cengiz Orhonlu, *Osmanlı İmparatorluğunda Derbend Teşkilatı* (İstanbul, 1967), 79-80; *İA*, 7:342. See also Milan Vasić, "Die Martolosen im Osmanische Reich," *Zeitschrift für Balkanologie* 2 (1964), 172-89; Idem, "The Martoloses in Macedonia," *Macedonian Review*, 7:1 (1977), 30-41.
200. *EI*$^2$, "Martolos," 613; Anhegger, 288, 315.
201. *EI*$^2$, s.v. "Kharādj," 7:1053-1055 (Cengiz Orhonlu)

202. See Halil İnalcık, "Osmanlılar'da Raiyyet Rüsûmu," *Belleten*, 23 (1959), 603-605.
203. Halil İnalcık, *Fatih Devri Üzerinde Tetkikler ve Vesikalar* (Ankara, 1954), 155, 179; Orhonlu, 87; Anhegger, 293.
204. İnalcık, "Stefan Duşan," 222, 243.
205. D.BKL 32187; D.BKL 32195; MM 2052; MM 5158; *MS MXT 562*; Römer, 31.
206. *MS MXT 562*, 20, 49r, 52r 62r, 74r.
207. *MS MXT 562*, 49r-54r, 62r-62v, 69r, 74r-76r, 80v-82r; MM 4000; MM 5820.
208. *MS MXT 562*; MM 4000.
209. D.BKL 32195; MM 4000, Topkapı Sarayı Arşivleri (TKA) D 216.
210. D.BKL 32187.
211. İnalcık, "Stefan Duşan," 243.
212. MM 5820; D.BKL 32187; MM 2052; D.BKL 32195; D 216. Finkel cites slightly lower pay for the sixteenth century. See her *Adminsitration*, 87.
213. İnalcık, "Stefan Duşan," 243.
214. *MS MXT 562*.
215. MM 4000; MM 5820; MM 7208; D 216.
216. MM 4000; MM 5820.
217. Anhegger, 287.
218. *MS MXT 562*.
219. MM 7320.
220. D.BKL 32208.
221. MM 5820.
222. D.BKL 32187; MM 2052; D.BKL32195.
223. D.BKL 32187; MM 2052.
224. D.BKL 32195.
225. Uzunçarşılı, *Kapukulu Ocakları*, 1:162-66. See also *EI*$^2$, s.v. "Segbān," supplement (forthcoming) (Virginia H. Aksan); *İA*, s.v. "Sekbân,"10:325-27 (M. Tayyib Gökbilgin) and Mehmet Zeki Pakalın, *Osmanlı Tarih Deyimleri ve Terimleri Sözlüğü* (İstanbul, 1983), 3:145-147.
226. The following description of recruitment procedures derives from Halil İnalcık "The Socio-Political Effects of the Diffusion of Fire-Arms in the Middle East*," War, Technology and Society in the Middle East*, edited by V. J. Parry and M. E. Yapp (London, 1975), 195-217 and Halil İnalcık "Military and Fiscal Transformation in the Ottoman Empire 1600-1700," *Archivum Ottomanicum*, 6 (1980), 283-337.
227. Marsigli, *Stato militare*, 1:85.
228. For the *celali* revolts, see İnalcık, "Military and Fiscal Transformation;" Mustafa Akdağ, *Celali İsyanı* (Ankara, 1963); and William J. Griswold, *The Great Anatolian Rebellion 1000-1020/1591-1611* (Berlin, 1983); Karen Barkey, *Bandits and Bureaucrats: The Ottoman Route to State Centralization* (Ithaca, 1994).
229. İnalcık, "Diffusion," 200.

230. Marsigli, *Stato militare*, 1:85.
231. Marsigli, *Stato militare*, 1:85.
232. Pakalın, 3:146 and *İA*, 10:326.
233. Pakalın, 3:146.
234. MM 6705; MM 7420; MM 116; MM 16398; D.YNÇ 33980; MM 16742.
235. Uzunçarşılı, *Kapukulu Ocakları*, 1:164-66.
236. D.YNÇ 33980; MM 16742; MM 16761.
237. D.YNÇ 33980; MM 16742; MM 16761.
238. D.YNÇ 33980.
239. D.YNÇ 33980; MM 16742; MM 16761.
240. MM 116.
241. MM 6709; MM 7420; MM 116.
242. MM 116; MM 16398; MM 16395; MM 7230; MM 4968.
243. MM 7230; MM 6389.
244. MM 6705; MM 116; MM 7230; D.YNÇ 33731; MM 7474.
245. MM 7420; MM 16395; MM 6389; D.YNÇ 22748; MM 16471.
246. MM 6389; D.YNÇ 33731.
247. See *EI*$^2$, s.v. "Gönüllü," 2:1120-1121, (Halil İnalcık); Barkan, "Mısır Kanunnâmesi," 355.
248. Pál Fodor, "Making a Living on the Frontiers: Volunteers in the Sixteenth-Century Ottoman Army," in ," *Ottomans, Hungarians, and Habsburgs in Central Europe*, (Leiden, 2000), ed. Géza Dávid and Pál Fodor, 229-63.
249. Uzunçarşılı, *Kapukulu Ocakları*, 1:3, 330.
250. *EI*$^2$, "Gönüllü," p.1120.
251. *EI*$^2$, "Gönüllü," p.1120-21; D.BKL 32195.
252. D.BKL 32187.
253. MM 2052.
254. D.BKL 32195.
255. MM 2052; D.BKL 32195.
256. TT 1044.
257. D.BKL 32187; MM 2052; D.BKL 32195.
258. Nenad Moaćanin, "Some Observations on the "*Kapudans*" in the Ottoman Northwestern Frontier Area 16-18 c." *Acta Viennensia Ottomanica* (Wien, 1999), 241-6.
259. D.BKL 32187; D.BKL 32195
260. D.BKL 32187; MM 2052.
261. D.BKL 32195.
262. D.BKL 32187; D.BKL 32195.
263. D.BKL 32195.
264. For the musical *mehter* see *EI*$^2$, s.v. "Mehter," 6:1007-8 (Walter Feldman). For other uses of the term see the entry in Pakalın, 2:444-45.
265. See the entry for "Mehter Başı" in Pakalın, 2:446.
266. MM 2113; MM 4457; MM 2846; MM 3645.
267. MM 7208.

268. MM 2113; MM 4457; MM 2846; MM 3645.
269. MM 7208; MM 2113; MM 4457; MM 2846; MM 3645.
270. D.BKL 32195.
271. D.BKL 32195.
272. D.BKL 32195.
273. D.BKL 32195.
274. MM16404; MM 5820; MM 2113; MM 4457; D.BKL 32187; D.BKL 32195.
275. Pakalın, 2:624.
276. D.BKL 32187; MM 2053; D.BKL 32195.
277. MM 16404; MM 5820; MM 2113; MM 2846.
278. MM 2113; MM 2843; MM 6188; MM 4457; MM 2846; MM 3645.
279. MM 2843; MM 6188; MM 4457.
280. Marsigli, *Stato militare* 1:84-5; Uzunçarşılı, *Kapukulu Ocakları*, 1:4, 547, 551, 2:131-3; Pakalın 2:347.
281. Marsigli, *Stato militare* 1:85.
282. Uzunçarşılı, *Kapukulu Ocakları*, 1:854-5,.2:117-27 ; *EI*$^2$, s.v. "Khumbaradji," 5:52-3 (C. Orhonlu); *İA*, s.v. "Kumbaracı," 6:982-5 (M. Cavid Baysun); Pakalın, 1:854-5.
283. *MS MXT 562*, 368, 404.
284. *EI*$^2$, s.v. "Müsellem," 7:665 (F. Müge Göçek); Pakalın, 2:627-8.
285. Marsigli, *Stato militare* 1:86.
286. *EI*$^2$, s.v. "Müteferrika," 7:794 (J. H. Kramers); *İA*, s.v. "Müteferrika," 8:853-856 (M. Tayyib Gökbilgin); Pakalın, 2:637-8.
287. *MS MXT 562*, 403, 422, 462.
288. *EI*$^2$, s.v. "Lewend," 5:728-9 (J. H. Kramers, W. J. Griswold); *İA*, s.v. "Levend," (İ. H. Uzunçarşılı); Pakalın, 2:358-9. See also Mustafa Cezar, *Osmanlı Tarihinde Levendler* (İstanbul, 1965).
289. MM 5158; *MS MXT 562*; Römer, 25-26.
290. *MS MXT 562*, 412-13.

## Chapter Four

1. Klára Hegyi provides some information on these garrisons in her list of Ottoman forts, but used a limited number of documentary sources. See her "The Ottoman Network of Fortresses in Hungary," *Ottomans, Hungarians, and Habsburgs in Central Europe*, (Leiden, 2000), ed. Géza Dávid and Pál Fodor, 163-93. The information in this chapter draws on a survey of all payroll and muster documents for Kanije and Uyvar extant in the Başbakanlık Osmanlı Arşivleri.
2. MM 3731.
3. MM 3731.
4. MM 6827; MM 5538.
5. MM6705.
6. MM 6705; MM 6804.

7. MM 7230; MM 16404.
8. MM 6145; MM 5820.
9. MM 7474; MM 7208.
10. Gábor Ágoston has used some of these same documents in "The Costs of The Ottoman Fortress-System in Hungary in the Sixteenth and Seventeenth Centuries," *Ottomans, Habsburgs, and Hungarians in Central Europe*, edited by Géza David and Pál Fodor (Leiden, 2000), 195-228.
11. MM 7162; MM 2113; MM 16606; MM4457; MM 2846; MM 3607; MM 3645.
12. MM 6596; MM 6955.
13. D.BKL 32187 lists payroll for two two-month periods: Muharrem-Sefer and Rebiülevvel-Rebiülahir.
14. D.BKL 32187.
15. D.BKL 32187.
16. D.BKL 32187.
17. MM 2052.
18. MM 7161.
19. MM 7161.
20. MM 6126; MM 6957.
21. MM 6557; MM 5996; MM 6957; MM 5997; MM 6961; KK 4733.
22. MM 5997.
23. MM 6943; MM 6319; MM 6924.
24. MM 6319.
25. MM 6319.
26. MM 5979.
27. D.BKL 32195.
28. MM 1607.
29. MM 1607.
30. MM 16694.
31. D.YNÇ 33980.
32. D.YNÇ 33980.
33. MM 16742.
34. MM 7239.
35. MM 16761.

## Chapter Five

1. MM 158.
2. For the *menzilhane* system see Colin J. Heywood, "The Ottoman Menzilhane and Ulak System in Rumeli in the Eighteenth Century" in *Türkiyenin Sosyal ve Ekonomik Tarihi (1071-1920)/Social and Economic History of Turkey (1971-1920)*, edited by Osman Okyar and Halil İnalcık, (Ankara, 1980), pp. 179-186 for a discussion of this post system in a slightly later period.

3. My use of the term derives from Suraiya Faroqhi, "Political Initiatives 'From the Bottom Up' in the Sixteenth- and Seventeenth-Century Ottoman Empire: Some Evidence for Their Existence," *Osmanistische Studien zur Wirtschafts- und Sozialgeschichte. In Memoriam Vanco Bočkov*, edited by Hans Georg Majer, (Wiesbaden, 1986), 24-33.
4. For information on garrison pay and finances in the sixteenth century see Gábor Ágoston, "The Costs of The Ottoman Fortress-System in Hungary in the Sixteenth and Seventeenth Centuries," *Ottomans, Habsburgs, and Hungarians in Central Europe*, edited by Géza David and Pál Fodor (Leiden, 2000), 195-228.
5. The most complete study of the *siyakat* script remains Lajos Fekete, *Die Siyāqat-Schrift in der Türkischen Finanzverwaltung* (Budapest, 1955). A more recent study is Dündar Günday, *Arşiv Belgelerinde Siyakat Yazısı Özellikleri ve Divan Rakamları* (Ankara, 1974).
6. It is not clear how or why the provincial records ended up archived with the copies sent to the central administration.
7. MM 2113; MM 6188; MM 4457; MM 3645; MM 2843.
8. MM 5158; MM 6804; MM 6957; KK 4884.
9. MM 6790 and MM 6929. The periods involved are *lezez* 1070 through *reşen* 1071.
10. MM 5979 and MM 16679 both cover *masar* and *recec* 1086.
11. See Halil İnalcık, "Military and Fiscal Transformation in the Ottoman Empire, 1600-1700," *Archivum Ottomanicum*, 6 (1980), 283-337. For the financial bureaucracy in this period, see Linda T. Darling, *Revenue-Raising and Legitimacy: Tax Collection and Finance Administration in the Ottoman Empire 1560-1660* (Leiden, 1996).
12. Caroline Finkel, *The Administration of Warfare: the Ottoman Military Campaigns in Hungary, 1593-1606* (Wien, 1988), 88.
13. For a contemporary example see Geoffrey Parker, *The Army of Flanders and the Spanish Road, 1567-1659* (Cambridge, 1972).
14. MM 3731; MM 5158; MM 6804; MM 6696; D.YNÇ 33718; MM 16431.
15. MM 831; MM 6730; MM 6133; D.YNÇ 33860; MM 6824.
16. MM 6929; MM 6974; MM 6955; MM 6964.
17. MM 6557; MM 6968; MM 6924.
18. MM 6957; MM 6961.
19. MM 16694; MM 16719; MM 21234; MM 18295.
20. MM 16749.
21. KK 4884; MM 4316.
22. KK 4884.
23. The documents are MM 7161; MM 6126; MM 6557; MM 5996; MM 6319; MM 6920; MM 6943; MM 5979; MM 16679; MM 1607; MM 16694; MM 16719; MM 16721; MM 21234; MM 16742; MM 16749.
24. MM5996; MM5979.
25. MM 16694.
26. MM 16721.

27. MM 5158.
28. D.BŞM-UYH 17083. *Cizye* was the head-tax assessed on non-Muslims. On cizye in the Ottoman period see *Encyclopaedia of Islam* (New Edition), s.v. "Djizya", 2:562-66 (Halil İnalcık).
29. See the inspection report on tax farms at Caffa in Halil İnalcık, *Sources and Studies on the Ottoman Black Sea. The Customs Register of Caffa, 1487-1490* (Cambridge, 1995), 99-103.
30. See *Encyclopaedia of Islam* (New Edition), s.v. "Hawāla", 3:283-85 (Halil İnalcık).
31. The name clearly derives from the term *ocak*, which was a unit of Janissary troops.
32. See Rhoads Murphey, "The Functioning of the Ottoman Army Under Murad IV (1623-1639/1032-1049)," unpublished Ph.D. dissertation, University of Chicago, 1979. Murphey also has edited and published a financial document that makes frequent mention of *ocaklık* assignments to garrisons see his *Regional Structure in the Ottoman Economy: A Sultanic Memorandum of 1636 A.D. Concerning the Sources and Uses of the Tax-Farm Revenues of Anatolia and the Coastal and Northern Portions of Syria* (Wiesbaden, 1987).
33. This documentation is preserved in Mühimme Defteri (MD) 83, which collected many of the orders concerning the Black Sea campaigns. This material is analyzed in Victor Ostapchuk, "The Ottoman Black Sea Frontier and the Relations of the Porte with the Polish-Lithuanian Commonwealth and Muscovy, 1622-1628," unpublished Ph.D. dissertation, Harvard University, 1989.
34. MM 892.
35. D.BŞM-UYH 17083
36. KK 4894.
37. Mutinies by the garrisons serving in the Netherlands were a major concern for the Spanish. See Parker, *Army of Flanders*. Closer to the topic at hand, see Caroline Finkel, "French mercenaries in the Habsburg-Ottoman War of 1593-1606," *Bulletin of the School of Oriental and African Studies* 55.3 (1992), 451-71 for an example of an entire garrison of French troops switching loyalties from the Habsburgs to Ottomans when they were not paid.
38. Uprisings and mutinies are common events in Ottoman narrative sources. For analyses of the phenomenon see especially Virginia H. Aksan, "Mutiny and the Eighteenth Century Ottoman Army," *Turkish Studies Association Bulletin* 22.1 (1998), 116-125 and Palmira Brummett, "Classifying Ottoman Mutiny: The Act and Vision of Rebellion," *Turkish Studies Association Bulletin* 22.1 (1998), 91-107.
39. Brummett, "Classifying", 106-7.
40. TT 676 for Kopan and Şimentorna and TT 657 for İstolni Belgrad. Both date from the reign of Murad III (1574-95). The similarity in the documents leads to the conclusion that they were drawn up as part of a

program to register land and establish laws in the region. Barkan reproduces the Kopan and Şimentorna document in his *XV ve XVIinci Asırlarda Osmanlı İmparatorluğunda Ziraî Ekonominin Hukukî ve Malî Esasları* (İstanbul, 1943), 319-21 but gives it a different archival reference number and date.

41. TT 676; TT 657.
42. TT 698. This document is also reproduced in Barkan, *Ziraî Ekonominin Hukukî*, 313-15. Like the document cited above, Barkan cites this document differently than it appears in the Başbakanlık Arşivleri.
43. TT 698.
44. TT 698.
45. Kıt'a or "piece" is a term that recurs in tax records. For some commodities, such as leather, its meaning is clear. In the case of others, for example salt as listed here, it is not clear if the term refers to some sort of standard measure.
46. TT 698
47. MM 6188, dated 1064 A.H.
48. TT 698.
49. Finkel points out that the Janissary corps' involvement in trade and its detrimental effect on military preparedness was noted by several contemporary writers. See *Administration of Warfare*, 69.
50. Reproduced in Barkan, *Ziraî Ekonominin Hukukî*, 355-86.
51. Mühimme Defterleri [MD] 77, n. 262.
52. MD 78, n. 1402.
53. MD 77, n. 209.
54. MD 98, n. 434, 465.
55. MD 78, n. 1728.
56. These orders are in MD 77, n. 53, 197, 275, 277.
57. MD 77, n. 275, 277.
58. MD 90, n. 105.
59. The *mühimme* registers contain a great deal of information about the Ottoman wars against the Habsburgs, usually in the form of orders to the commander in chief of the army. I have excluded these from this study, however, as they concern periods of full-scale campaigns.
60. MD 77, n. 290, 292, 587, 590.
61. D.BŞM-UYH 17083. A full translation of Mehmed's report is Mark L. Stein, "A Provincial Treasurer Reports, c. 1674," *The Modern Middle East Sourcebook*, edited by Cameron Amin, Benjamin Fortna, and Elizabeth Frierson, (Oxford, 2006), 3-6.
62. The list contains fifteen numbered statements. It is probable that the numbering was not original to the document but was added by a later hand.
63. The most recent and full discussion of Ottoman money is Şevket Pamuk's contribution "Money in the Ottoman Empire, 1326-1914" in *An Economic and Social History of the Ottoman Empire, 1300-1914*, edited by Halil

İnalcık with Donald Quataert, (Cambridge, 1994), 2:945-85. For more on currency in this period see Halil Sahillioğlu, "Kuruluştan XVII. Asrın Sonlarına Kadar Osmanlı Para Tarihi Üzerinde bir Deneme", (unpuplished, İstanbul, 1958), and Sahillioğlu, "Bir Asırlık Osmanlı Para Tarihi, 1640-1740", (unpublished, İstanbul, 1965).

64. See *Encyclopaedia of Islam* (New Edition), s.v. "Mazra'a," 5:959-61, (Halil İnalcık).
65. Approximately 1.282 kg. See Halil İnalcık, "Introduction to Ottoman Metrology," *Turcica*, 15 (1983), 311-48.
66. See L. Fekete and Gy. Kaldy-Nagy, *Rechnungsbücher Türkischer Finanzstellen in Buda (Ofen) 1550-1580*, (Budapest, 1962), for a discussion of revenues in this region.
67. See Halil İnalcık, "Osmanlılar'da Raiyyet Rüsûmu", *Belleten*, 23 (1959), 603-05.
68. For more on governmental authority and individual initiative see Faroqhi "Political Initiatives" and the articles collected in *Decision Making and Change in the Ottoman Empire*, edited by Cesar E. Farah, (Kirksville, 1993) especially the contribution by Linda T. Darling, "The Finance Scribes and Ottoman Politics", 89-100.

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D.BŞM-UYH 17083

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D.BKL 32187
D.BKL 32195
D.BKL 32196
D.BKL 32208

Bab-i Defteri Yeniçeri Kalemi (D.YNÇ)
D.YNÇ 22748
D.YNÇ 33718
D.YNÇ 33731
D.YNÇ 33748
D.YNÇ 33752
D.YNÇ 33762
D.YNÇ 33939
D.YNÇ 33945
D.YNÇ 33954
D.YNÇ 33980

Kemal Kepeci Tesnifi (KK)
KK 4733
KK 4738
KK 4884
KK 4894

Mühimme Defterleri (MD)
MD 77, n. 197
MD 77, n. 209
MD 77, n. 275
MD 77, n. 277
MD 77, n. 290
MD 77, n. 292
MD 77, n. 53
MD 77, n. 587
MD 77, n. 590
MD 78, n. 1402
MD 78, n. 1728
MD 90, n. 105
MD 98, n. 434
MD 98, n. 465

Maliyeden Müdevver (MM)
MM 116
MM 1370
MM 158
MM 16001
MM 1607
MM 16087
MM 16318
MM 16368
MM 16395
MM 16398
MM 16404
MM 16427
MM 16431
MM 16459
MM 16471
MM 16606
MM 16679
MM 16694
MM 16719
MM 16721
MM 16742

MM 16749
MM 16757
MM 16761
MM 16769
MM 1726
MM 18295
MM 2052
MM 2053
MM 2113
MM 2120
MM 21234
MM 21244
MM 2125
MM 2152
MM 2564
MM 2843
MM 2846
MM 3607
MM 3645
MM 3731
MM 4000
MM 4316
MM 4457
MM 4654
MM 4884
MM 4968
MM 5158
MM 5538
MM 5820
MM 5979
MM 5996
MM 5997
MM 6126
MM 6133
MM 6145
MM 6188
MM 6319
MM 6389
MM 6557
MM 6596
MM 6696
MM 6705
MM 6709
MM 6730
MM 6790
MM 6804
MM 6805
MM 6824
MM 6827
MM 6829
MM 6920
MM 6924
MM 6929
MM 6933
MM 6943
MM 6955
MM 6957
MM 6958
MM 6961
MM 6964
MM 6968
MM 6974
MM 7003
MM 7089
MM 7161
MM 7162
MM 7171
MM 7208
MM 7230
MM 7234
MM 7239
MM 7320
MM 7364
MM 7373
MM 7420
MM 7473
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MM 7530
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# Glossary of Terms

| | |
|---|---|
| ahencame | chainmail |
| akçe | silver coin |
| alatcı | craftsman or worker |
| alaybey | commander of district timar holders |
| alemdar | "flag bearer," a lower level unit officer |
| anbarcı | person in charge of storehouse |
| avarız | extraordinary taxes, usually levied in wartime |
| azeb | levied infantry |
| bacaluşka | large cannon, possibly equivalent to the basilisk |
| balta | ax |
| balyemez | large cannon |
| bargir | pack horse |
| beylık | small "princedom" ruled by a Turkish military leader in Anatolia |
| beytülmal | public treasury |
| bölük | unit of troops, usually within a cemaat |
| börk | the hat worn by the Janissaries |
| çavuş | messenger |
| cebeci | armorer |
| cebehane | armory |
| çelik | steel |

| | |
|---|---|
| cemaat | unit of troops, usually made up of bölüks |
| defterdar | financial bureaucrat |
| derbendci | guards of roads and mountain passes |
| duacı | religious official |
| faris | levied cavalry |
| fıtil | matchcord |
| garar | sack |
| gaza | war or raiding against non-Muslim areas |
| gazi | warrior for the faith, or one who practices gaza |
| gedik | listing in a garrison or muster payroll |
| gönüllü | volunteer troops |
| güherçile | saltpetre |
| guruş | large silver coin |
| haddad | blacksmith |
| hane | household for taxation purposes |
| harac | a land tax |
| harbe | pikestaff |
| hass-ı hümayun | imperial land holding |
| hatt- ı hümayun | handwritten imperial edict |
| havale | transfer of funds |
| havayı | mortar |
| hısarlı, hısareri | troops serving in forts |
| humbara | mortar bombs |
| humbaracı | bombadier |
| ispençe | type of personal tax |
| kalafatcı | caulker |
| kalkan | shield |
| kantar | unit of large weight |
| kâtib | scribe |
| katran | tar |
| kazma | pick |
| keman | bow |
| kethüda | second in command of a unit |
| kiçe | felt |
| kile | measure of capacity for grain |

| | |
|---|---|
| kolçak | arm-plate |
| kolumburna | cannon equivalent to the culverin |
| kömür | charcoal |
| kömük | bellows |
| küşkü | crowbar |
| kükürd | sulfur |
| külünk | battle ax |
| kûpâl | mace |
| kurşun | lead or bullet |
| kürek | shovel |
| lağımcı | miner |
| levend | levied troops, used both navy and army |
| martolos | Christian troops in Ottoman service |
| maslik | hemp |
| mehter | military musician, or tentkeep |
| meteris | trench |
| mevacib defteri | payroll records |
| mezraa | abandoned arable land |
| miri anbar | government storehouse |
| mizrak | lance |
| muşemma-ı bal | waxed tarpaulin |
| mürtezikaci | one who receives a salary |
| müsellem | provincial auxillery troops who served in exchange for exemption |
| müstahfız | fortress soldier |
| müteferrika | guards of a fortress commander |
| neccar | carpenter |
| nize | spear |
| öşr | tithe |
| ocak | unit of troops |
| ocaklık | revenue assigned to units of troops similar to a tax farm |
| oda | unit of janissaries |
| okka | weight of approx. 1.282 k., also called vukiyye. |
| örs | anvil |

| | |
|---|---|
| palanka | fortification made of earth-filled wood palisaides |
| şahi zarbuzan | large cannon |
| şayka | large cannon |
| sekban | auxillery troops associated with Janissary corps |
| ser-i mie | leader of a thousand men |
| seri-i oda | leader of an oda |
| siçan yol | parallel trenches |
| tabiyye | redoubt |
| taller | gold coin |
| temessük | bill of debt |
| timar | allocation of land revenue |
| tir | arrow |
| tolga | helmet |
| top arabacı | troops in charge of artillery transport |
| topçu | artillery men |
| vukiyye | weight of approx 1.282 k also called okka |
| yoklama | muster roll |
| zarbuzan | most common Ottoman cannon |
| zift | pitch |

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